

Process Formulation and development of ultrasound gel from ingredients available in local market.

Area Hospital and Clinic

Uses Ultrasonography , ECG



Ultrasound gel

1. There will be no need to import
2. Valuable foreign currency will be saved
3. Easily availability will increase its sufficient use
4. It will be helpful to diagnosis system

Scale of Development The process is standardized at banch scale

Major Raw Materials Acrylic polymer, glycerine

Major Plant Equipment/ Machinery S.S. Still container, mechanical stirrer and water bath

Details of Specific application This product is mainly used for ultrasonography, FCG at hospital and clinic

Status of Development This process is clinically tested and ready for submission and it is ready for commercialization

Environmental Inpact This process is environment friendly and after commercialization this product able to fulfill our national demand

Patenting details Patented filed in future

Commercialized Status Ready for commercialization

Cost of Production 100 tk/kg

Key words Acrylic polymer, glycerine

A Process for the Production of Herbal Body Oil

Process

Area

Baby Liquid Laundry Detergent is specialized for baby skins and sensitive skins.

Uses

For healthy looking skin.



Herbal Body oil is mainly intended for the purpose of skin care and Body messaging. Natural and aromatic range of Herbal body oils are used to gain a fresh feeling. Herbal Body Oils are made from natural oils and herbal extracts. It is aromatic and accentuates our senses. It has cleansing properties and antiseptic activities due to the presence of Turmeric and Neem

Body Oil

Scale of Development

The process is standardized at bench scale.

Major Raw Material

Vegetable oil, Turmeric extract, Neem oil etc.

Major Plant

Grinder, M.S. with all accessories, Mesh 40-80, Soxhlet extractor, Spring Balance and water bath.

Equipment/Machinery

Details of specific application

Herbal Body Oil is mainly intended for the purpose of skin care and Body messaging.

Status of Development

This process is verified by the BCSIR authority and it is ready for acceptance.

Ecological/Environmental Impact(if any, specify briefly)

This process is environment friendly and after commercialization this product able to fulfill our national demand.

Patenting details

Patented filed in future.

Commercialization Status

This process is ready for acceptance.

Techno-Economics

Available on demand.

Key words

Vegetable oil, Turmeric extract, Neem oil etc.

Cost of product

440 Tk/ L

Process

Area

Uses



Face Wash

Scale of Development

Major Raw Material

Major Plant

Equipment/Machinery

Details of specific application

Status of Development

Ecological/Environmental Impact(if any, specify briefly)

Patenting details

Commercialization Status

Techno-Economics

Key wards

Cost of product

A Process for the Production of Herbal Face Wash

Men & Women

Clean, clear and healthy looking skin

This Face wash is rich anti bacterial, luxurious and moisturizing Face cleanser. Face wash leaves the skin with smooth, silky feeling while minimizing the irritation associated with some bar soaps.

Ready for submission for acceptance.

Aloevera & Neem Oil

Balance, Blender and water bath and Distilled water plant.

This process is a moisturizing Face cleanser due to its anti bacterial activities is also keeps Face germ free and save the people from diseases.

This process is already for Submission.

This process is environment friendly and after commercialization this product able to fulfill our national demand.

Patented filed in future.

Ready for submission for acceptance.

Available on demand.

Aloevera & Neem Oil

150 Tk/ kg

Process

A process for the production of chitin from shrimp industry waste

Area
Uses

Pharmacy and Food
Chitin is useful for several medicinal, industrial and biotechnological purposes.



Picture:Chiti

Chitin was first isolated and characterized in 1811 by the chemist and botanist Henry Braconnot. Chitin is structurally 2-acetamido-2-deoxy-D-glucose (*N*-acetylglucosamine) residues linked by β -(1-4) bonds, is the second richest polysaccharide of animal origin found in nature after cellulose and it is characterized by its fibrous structure. Chitin is extracted from the shells of shrimp, lobster, and crabs. It is a fibrous substance that might block absorption of dietary fat and cholesterol

Scale of Development

The process is standardized at bench scale

Major Raw Material

Shrimp processing waste (Head, body, Tail), Sodium hydroxide, Hydrochloric Acid

Major Plant
Equipment/Machinery
Details of specific
application

S.S.Still container, mechanical stirrer and hot plate

Pharmaceutical industry and Biotechnology

Status of Development

This process is accepted by the BCSIR authority and it is ready for commercialization

Ecological/Environmental
Impact(if any, specify
briefly

This process is environment friendly and after commercialization this product able to fulfill our national demand

Patenting details

Patented

Commercialization
Status

Ready for commercialization

Techno-Economics

Available on demand

Cost of Production

14000/Kg

Key wards

Chitin, Shrimp shell, Hydrochloric acid.

Process

Production of chitosan from shrimp shell waste

Area
Uses

Food & Pharmaceutical Industry, ETP
Agriculture, Food preservative, Drug delivery, Waste water treatment, Cosmetics etc



Picture: Chitosan Powder.

Chitosan is a cationic polysaccharide with linear chain consisting of β -(1,4)-linked 2-acetamino-2-deoxy- β -D-glucopyranose and 2-amino-2-deoxy- β -D-glucopyranose. It does not show any adverse effects when in contact with human cells and this property has attracted chemist's scientific attention to chitosan. The biological activities of chitosan make it promising agent in controlled drug delivery systems, which can control the release of drug for long period of time. Chitosan also has antimicrobial activity, wound- healing properties, and can decrease the level of cholesterol inhuman body

Scale of Development

The process is standardized at bench scale.

Major Raw Material

Shrimp processing waste (Head, body, Tail), Sodium hydroxide, Hydrochloric Acid.

Major Plant
Equipment/Machinery

S.S.Still container, mechanical stirrer and hot plate.

Details of specific application
Status of Development

Drug excipient, Preservative, water treatment.
This process is accepted by the BCSIR authority and it is ready for commercialization

Ecological/Environmental
Impact(if any, specify briefly)

This process is environment friendly and after commercialization this product able to fulfill our national demand

Patenting details

Patented

Commercialization Status

Ready for commercialization

Techono-Economics

Available on demand

Cost of Production

20000/Kg

Key wards

Chitin, Shrimp shell, Hydrochloric acid

Process



**chitosan-charcoal
bio-composite**

Preparation of chitosan-charcoal bio-composite for chromium removal

A new composite biosorbent has been prepared by coating chitosan onto charcoal. Chitosan-charcoal composite has applied as the media of biological filters to treat tannery wastewater. Biopolymer chitosan-charcoal composite have been successfully prepared by a simple solution- evaporation method. The morphology and mechanical properties of the chitosan-charcoal composite have been characterized with scanning electron microscopy (SEM) and X-ray diffraction (XRD). The prepared chitosan-charcoal can remove chromium from tannery effluent more than 90% at optimum condition

Scale of Development

The process is standardized at bench scale

Major Raw Material

Shrimp processing wastes (head, shell and tail), charcoal, hydrochloric acid, sodium hydroxide, oxalic acid etc

Major Plant
Equipment/Machinery
Details of specific
application

S.S.S till container, mechanical stirrer and hot plate
Heavy metal removal

Status of Development

This process is accepted by the BCSIR authority and it is ready for commercialization

Ecological/Environmental
Impact(if any, specify
briefly

This process is environment friendly and after commercialization this product able to fulfill our national deman

Patenting details
Commercialization
Status

Ready for commercialization

Techono-Economics

Available on demand

Key wards

Chitosan, Charcoal

Reference: BCSIR

Cotton seed oil

Uses	Crude cottonseed oil has been used in toiletries (e.g. Soaps, facial wash, shampoo and lotions) industries.
Scale of Development	The product is standardized at Bench scale.
Major Raw Materials	Waste cotton seed.
Major Plant Equipment	Distillation equipment, Heating mantle etc.
Specific Application	<p>The main fatty acids found in crude cotton seed oil are palmitic acid, stearic acid, linoleic acid, caprylic acid, elaidic acid.</p> <p>Palmitic acid does display antioxidant properties. Also Palmitic acid can be used as surface active agents</p> <p>Caprylic acid is used in perfumery.</p> <p>Stearic acid is mainly used in the production of detergents, soaps and cosmetics such as shampoos and shaving cream products</p>
Status of Development	It is developed and tested.
Environmental impact	Process is environment friendly.
Commercialization Status	Ready for commercialization
Price (per Litre)	100/- (One hundred taka only)
Key words	Waste cotton seed, toiletries, distillation etc.

Process Production of Pectin from ripe mango peel
Area Food and Pharmaceuticals
Uses as gelling, thickening and stabilizing agent in processed food and excipient in pharmaceuticals



Ripe mango peel

Scale of Development Laboratory scale
Major Raw Materials Ripe Mango peel as wastes of mango processing industry, Ethanol (95%).
Major Plant Equipment/ Machinery Drier, solvent distillation plant, grinder
Details of Specific application Gelling agent in jam, jelly , marmalede etc. and excipient in pharmaceuticals
Status of Development Product developed, analyzed and process ready to be leased out
Environmental Impact Not only environment friendly but also profitable as its raw material is a wastes of mango processing industry and it could be substitute of gelatin an animal tissue extract
Commercialized Status Pectin is being imported still but there is a bright future for establishing this industry in our country
Cost of Production around TK. 2 crore for 30 M.T. production per year
Key words pectin, mango peel, gelling agent, thickener, stabilizer

Process Production of Pectin from ripe jackfruit waste

Area Food and Pharmaceuticals

Uses as gelling, thickening and stabilizing agent in processed food and excipient in pharmaceuticals

Gelling agent, thickener and stabilizer



Ripe jackfruit waste

Scale of Development Laboratory scale

Major Raw Materials Ripe Jackfruit rind (waste), Ethanol (95%).

Major Plant Equipment/ Machinery Drier, solvent distillation plant, grinder

Details of Specific application Gelling agent in jam, jelly, marmalade etc. and excipient in pharmaceuticals

Status of Development Product developed, analyzed and process ready to be leased out

Environmental Impact Not only environment friendly but also profitable as its raw material is a waste of mango processing industry and it could be substitute of gelatin an animal tissue extract

Commercialized Status Pectin is being imported still but there is a bright future for establishing this industry in our country

Cost of Production Around TK. 5.5 crore for 30 M.T. production per year

Key words pectin, jackfruit rind, gelling agent, thickener, stabilizer

Process	Production of Starch from ripe mango seed
Area	Food and Pharmaceuticals Industries and laboratory uses
Uses	As food additives and pharmaceutical excipients
	Thickener and stabilizer
	
Ripe mango seed	
Scale of Development	Laboratory scale
Major Raw Materials	Ripe Mango seeds as wastes of mango processing industry
Major Plant Equipment/ Machinery	Drier, solvent distillation plant, grinder
Details of Specific application	<ul style="list-style-type: none"> • as thickening and stabilizing agent in foods such as puddings, custardsetc. ☐ in the manufacture of various adhesives or glues for book-binding, wallpaper adhesives. ☐ in the pharmaceutical industry, starch is also used as an excipient, as tablet disintegrant or as binder.
Status of Development	Product developed, analyzed and process ready to be leased out
Environmental Impact	Not only environment friendly but also profitable as its raw material is a wastes of mango processing industry
Commercialized Status	Starch from discarded wastes of mango processing industries will obviously be profitable because we get valuable product with a very low cost
Cost of Production	Around TK. 34 lakh for 300 M.T. production per year
Key words	Starch, mango seed, thickener, stabilizer