

Process

Production of oil from kernel of ripe mango

Area

Cosmetic Industries

Uses

useful in soap, shampoo, cream etc. manufacturing



Mango Seed Oil

Cholesterol balance, Lowers blood sugar, Reduce acne, Maintain healthy weight (Ref: Health Benefit times.com)

Scale of Development

Laboratory scale

Major Raw Materials

Ripe Mango seeds as wastes of mango processing industry, nHexane

**Major Plant Equipment/
Machinery**

Soxhlet apparatus, solvent distillation plant

Details of Specific application

As an active ingredient in soap, shampoo, cream etc. manufacturing

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 mineral oil

Commercialized Status

Mango kernel oil is being imported but there is a bright future for establishing this industry in our country

Cost of Production

around TK. 59 lakh for 30 M.T. production per year

Key words

Mango kernel oil, cosmetic ingredient

A Process for the Production of Anhydrous Aluminum Chloride from Scrap Aluminum

Process

Area



Anhydrous Aluminum Chloride

Lewis acid, polymerization.

Aluminium chloride (AlCl_3) is the main compound of aluminum and chlorine. It is white, but samples are often contaminated with iron trichloride, giving it a yellow colour. The solid has a low melting and boiling point. It is mainly produced and consumed in the production of aluminium metal, but large amounts are also used in other areas of chemical industry. The compound is often cited as a Lewis acid. It is an example of an inorganic compound that "cracks" at mild temperature, reversibly changing from a polymer to a monomer. AlCl_3 adopts three different structures, depending on the temperature and the state (solid, liquid, gas). Solid AlCl_3 is a sheet-like layered cubic close packed layer.

Scale of Development

The process is standardized at bench scale

Major Raw Material

Aluminium and Hydrochloric acid

Major Plant Equipment/Machinery

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

Details of specific application

This product is mainly used for Friedel–Crafts reactions, isomerization, Production of detergents and ethylbenzene

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 filed in future

Commercialization Status

Ready for commercialization

Techno-Economics

Available on demand

Cost of Production (Tk.)

900.0/kg

Key wards

Aluminum, Hydrochloric acid, isomer, polymer, detergent

Process

A process for the production of Production of Lead Acetate from Lead Oxide

Area

textile printing, dyeing, varnishing

Uses

Lead acetate is used as a mordant in textile printing and dyeing, as a drier in paints and varnishes, and in preparing other lead compounds



Lead Acetate

Lead acetate paper is used to detect the poisonous gas hydrogen sulfide. The gas reacts with lead (II) acetate on the moistened test paper to form a grey precipitate of lead (II) sulfide. An aqueous solution of lead acetate is the byproduct of the 50/50 mixture of hydrogen peroxide and white vinegar used in the cleaning and maintenance of stainless steel firearms suppressors (silencers). The solution is agitated by the bubbling action of the hydrogen peroxide, and the main reaction is the dissolution of lead deposits within the suppressor by the acetic acid, which forms lead acetate.

Scale of Development

The process is standardized at bench scale

Major Raw Material

Lead oxide and acetic acid

Major Plant Equipment/Machinery

S.S. Still container, mechanical stirrer, hot plate, round bottom flask, heating mantel

Details of specific application

This product is mainly used as a mordant in textile printing and dyeing, as a drier in paints and varnishes, and in preparing other lead compounds

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 filed in future

Commercialization Status

Ready for commercialization

Techno-Economics

Available on demand

Cost of Production (Tk.)

700.0/kg

Key wards

Lead oxide, acetic acid, textile, dye, vernish

Process

A process for the production of phosphate based dry fire extinguishing agent

Area

Extinguish the ABC type fire

Uses

This product is used for Extinguish the ABC type fire



Phosphate based fire extinguishing

Scale of Development

This process is leased out by BCSIR authority

Major Raw Material

Monoammonium phosphate and ammonium sulphate

Major Plant
Equipment/Machinery

Grinding machine, mixing machine, S.S. still container

Details of specific
application

Dry Chemical fire extinguishers (phosphate based) extinguish the fire primarily by interrupting the chemical reaction of the fire triangle. The multipurpose dry powder works by creating a barrier between the oxygen element and the fuel element on Class A, B & C fires.

Status of Development

This process is accepted by the BCSIR authority and leased out

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 leased out by BCSIR authority

Techono-Economics

Available on demand

Cost of Production (Tk.)

150.0/kg

Key wards

Phosphate, fire, extinguisher, dry chemical

Process

A process for the production of Production of Zinc Acetate from Zinc Oxide

Area

Zinc deficiencies, Antibiotic

Uses

Zinc acetate is commonly used as a dietary supplement and in lozenges used to treat the common cold. Zinc acetate can also use to treat zinc deficiencies and treatment of Wilson's disease.



Zinc Acetate

Zinc acetate is used in chemical synthesis for different pharmaceutical products and as a dietary supplement and in lozenges used to treat the common cold. It along is thought to be a more effective treatment than zinc gluconate. Zinc acetate can also use to treat zinc deficiencies. As an oral daily supplements it is used to inhibit the body's absorption of copper as part of the treatment of Wilson's disease. It is also sold as an astringent in the form of an ointment, a topical lotion or combined with an antibiotic such as erythromycin for the topical treatment of acne, furthermore zinc acetate is commonly sold as a topical anti-itchointment.

Scale of Development

The process is standardized at bench scale

Major Raw Material

Zinc oxide and acetic acid

Major Plant
Equipment/Machinery

S.S.S till container, mechanical stirrer, hot plate, round bottom flask, heating mentel

Details of specific application This product is mainly used as a dietary supplement and in lozenges used to treat the common cold. Zinc acetate can also use to treat zinc deficiencies and treatment of Wilson's disease.

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 filed in future

Commercialization Status

Ready for commercialization

Techno-Economics

Available on demand

Cost of Production (Tk.)

900.0/kg

Key wards

Zinc oxide, acetic acid, dietary supplement, lozenges.