

International Research Journal of Modernization in Engineering Technology and Science

(Peer-Reviewed, Open Access, Fully Refereed International Journal) Volume:06/Issue:07/July-2024

Impact Factor- 7.868

www.irjmets.com

FORMULATION & EVALUATION OF HERBAL FACE TONER IN THE FACULTY OF PHARMACY

Vishal Vikram Pawar^{*1}, Prof. Ms. P.R. Nagargoje^{*2}, Dr. Santosh Jain^{*3}

*1Aditya Institute Of Pharmaceutical Beed Tal-Beed Dist-Beed-431122, India.

^{*2,3}Dr. Babasaheb Ambedkar Technological University Lonere Raigad, Tal-Mangaon,

Dist-Raigad. 402103 Maharashtra, India.

DOI: https://www.doi.org/10.56726/IRJMETS59818

ABSTRACT

In today's fast world a natural rejuvenation is a necessary step for one's healthy mind and skin. The herbal face toner is a Natural freshener toner as well as a good cosmetic having rejuvenating and cleansing properties on the skin. The study is aimed to formulate a natural and safe herbal skin toner that has a calming, soothing, effect on the facial skin to reduce the facial irritancy and bring freshness, also to enhance the beauty. The Cucumber and Aloe vera extract used gives excellent results and safety for sensitive skin types and can be used on daily basis. The purpose behind formulating the mist is ease of spread, getting cooling and smoothening effect fast, and impart freshness to facial skin in a mild way.

Keywords: Face Toner, Mist, Cucumber (Magnolia Acuminata), Aloe Vera (Aloe Barbadense), Honey.

I. **INTRODUCTION**

STRUCTUR AND FUNCTION OF SKIN :-

Skin is largest organ in the body.

In a 70kg individual, the approaching 2 square meter.



Fig.No.1: Skin

Human skin consists of :-

Epidermis Dermis

Hypodermis(subcutaneous fat)

Epidermis :-

- It is stratified squamous epithelium which is terminally differentiated. ٠
- Thickness 0.05-0.1mm.
- Keratinocytes constitute more than 95% of epidermal cell.
- The "brick like" shape of keratinocytes is provided by cytoskeleton made of keratin intermediate filaments. www.irjmets.com



International Research Journal of Modernization in Engineering Technology and Science (Peer-Reviewed, Open Access, Fully Refereed International Journal)

Volume:06/Issue:07/July-2024 Impact Factor- 7.868 www.irjmets.com

• As epidermis differentiates, cells gets flattened. This process involve the filament aggregating protein called filaggrin.

• Keratin and filaggrin comprises 90% of mass of epidermis. On morphological grounds, the epidermis can be distinct layers:- Stratum basal or stratum germinativum

- Stratum spinosum
- Stratum granulosum
- Stratum corneum

Malpighian layer includes both the basal and spinous cells.



Fig.No.2: Epidermis

Stratum Besale:-

- Continuous layer, generally one cell thick but can be 2-3 cell layer thick in glabrous skin and hyperproliferative skin.
- Basal cell are small and cuboidal with large dark staining nuclei and dense cytoplasm.
- It contain ribosome, tonofilaments and melanosomes transferred from mekanocytes by phagocytosis.
- It contains three types of cell:- Stem cell.

Transient amplifying cells.

Post mitotic cells.

Stratum spinosum:-

- Aka prickle cell layer.
- Contains are polyhedral with a round nucleus.
- The cell in upper spinous layer are more larger and flattened and contains "lamellar granules". Stratum Granulosum:-
- It is 2-5 cells thick.
- Containing intracellular granules of keratohyalin.
- The cytoplasm of upper spinous layer known as membrane coating granules or odland bodies. Stratun Corneum:-
- Outermost skin layer.
- Consist of 20-25 layers of cornified cell called as corneocyes which are laegest cells of epidermis.
- They are flattened with no nuclei and cytoplasmic organelles.



International Research Journal of Modernization in Engineering Technology and Science

(Peer-Reviewed, Open Access, Fully Refereed International Journal) Volume:06/Issue:07/July-2024 Impact Factor- 7.868 ww

www.irjmets.com

Stratum Lucidum:-

• An electron-lucent layer present in palms and soles between stratum granulosum and stratum corneum with nucleated transitional cells.

Dermis:-

- It make the bulk of the skin.
- Unlike epidermis, it is highly acellular and consist of etracellular matrix of connective tissue.



Fig.no.3: Dermis

- There are four major component:
- Collagen fabres :- provide tensile strength.
- Elastic structures :- provide elasticity and resilience.
- Glycoprotein :- such as fibrillins , fibulines, and and integrins: organizers of matrix. Proteoglycans or glycosaminoglycans:-provide hydration. It is primary composed of adipose tissue.
- It insulates the body.
- It serves as a reserve energy supply.
- It protect the skin.
- It allows for its mobility over the underling structures.
- It has a cosmetics effect in molding body contours.

Hypodermis (subcutis) :-

Functions of the skin:-

- Protection- against chemicals, particles, uv rayas, microbes.
- Homeostasis- prevents loss of water, electrolytes, macromolecules.
- Shock absorber- by dermis and sc tissue.
- Temperature regulation- bl. Vs , sweat glands.
- Sensation thru specialized nerve endings.
- Protection and prising- nail.
- Insulation and calorie reserve- sc fat.
- Vit D Synthesis-keratinocytes.
- Body ordour- apocrine sweat glands

Cosmetics:- Cosmetics may be defined as the substance which is derived from synthetic and naturally occuring chemical constituents used to maintain the human body appearance. The skin is protected by the various cosmetics and it keep the skin in good condition. Cosmetics are the substance which are used to enhance and beautify the appearance of human body.



International Research Journal of Modernization in Engineering Technology and Science

(Peer-Reviewed, Open Access, Fully Refereed International Journal) Volume:06/Issue:07/July-2024 **Impact Factor- 7.868** www.irjmets.com

Herbal cosmetics: Because of less side effects the herbal products having more demand and they are easily available. In these days, In cosmetic preparations the use of herbal ingredient was increased because they are less toxic and have more effective than synthetic. In these days, looking attractive, good-looking and beautiful than original age, is directly influenced on the demand of cosmeceuticals in the market.

Herbal face toner: Toner is water based totally liquid which contains energetic components to cleanse the skin, keeping skin pH stable ,shrink pores and grant an immediately glow. Before washing your face , it removes the dirt and impurities which are stuck on pores of skin. When brought to daily routine of skin treatement and used regularly, it having major positive impact on the apperance and ageing skin. It has an antioxidant property which hydrates the skin

Effect of toner on the skin: After cleansing of the face the leftover makeup was eliminate by the toner, act as a secondary cleansing agent, which prepare the skin for nourishment. Alcohol-based and non-alcohol based are two category of toner, it is used for oily, sensitive and combination type of skin

From the ancient days, people use naturally available resources to enhance their beauty .It is known that cosmetics are the products used to enhance and impart beauty to the user .In earlier days, naturally available ingredients were generally used as cosmetics, but with the passage of time and improvement in science, several chemicals came into existence that is said to impart or enhance beauty, thus used as cosmetics .Using these chemical-based products can impart beauty for a particular time but it harms our skin when used for a long time. Many harmful effects have been noticed due to the usage of chemical-based products, thus now day's cosmetics industry mainly focuses on the preparation of herbal products. The face mist prepared is completely chemical-free and it will also provide a soothing effect to the skin, protect the skin from sunburn, and it also has proven anti-allergic propertie

One of the cosmetics used by the public in the presence of toner, to be able to remove dirt and close pores. Based on the Regulation of the Minister of the Republic of Indonesia, cosmetics are divided into parts, namely, cosmetics for babies such as baby oil and baby powder, cosmetics for bathing, namely bath soap and shampoo, cosmetics for the eyes. Traditional cosmetics are natural cosmetics or original cosmetics that can be made directly from fresh or dried ingredients, fruits, or plants . Traditional cosmetics are homemade cosmetics that are processed from plants that grow around, which are still fresh or have been preserved. The advantage of traditional cosmetics is that it has fewer side effects because it does not add chemicals and is also cheaper.

In the past, skin toner was a typical product used as a second cleansing agent for removing residual makeup after regular facial cleansing or used for removing excess sebum secreted from facial skin to prepare the skin before nourishing treatment. Toners may be categorized into alcohol-based or non-alcohol-based toners for various skin types such as oily skin, sensitive skin, or combination skin . Nowadays, the diversity and prevalence of the products cause skin toners to be utilized more as cosmeceutical products with several purposes; for example, rehydrating skin, balancing skin pH, tightening skin pores, relieving irritation, and also antisepsis. Significantly, because of the growing awareness and demand of natural products, plants have gradually been used much more in cosmeceutical products . Hence, toners that are developed as cosmeceutical products by adding therapeutic benefits of herbal extracts from plant's leaves, twigs, bark, or fruits for controlling oiliness tend to be.

Toner:

Toner removes any last traces of dirt; grime and impurities stuck in your skin pores after you wash your face. When added to your daily skincare routine and used regularly, it can have major positive impact on the appearance and tightness of your pores (aging skin).

Effects of a toner on skin:

Earlier the skin toner was a typical product used as a second cleansing agent for removing residual makeup after regular facial cleansing or used for removing excess sebum secreted from facial skin and to prepare the skin before nourishing treatment. Toners may be categorized into alcohol-based or non-alcohol-based toners for various skin types such as oily skin, sensitive skin, or combination skin. Nowadays, the diversity and prevalence of the products cause skin toners to be utilized more as cosmceutical products with several purposes; for example, rehydrating skin, balancing skin pH, tightening skin pores, relieving irritation, and also antisepsis .ing irritation, and also antisepsis



International Research Journal of Modernization in Engineering Technology and Science

 $(\ {\it Peer-Reviewed, Open Access, Fully Refereed International Journal}\)$

Volume:06/Issue:07/July-2024 Impact Factor- 7.868

www.irjmets.com

Types of Toner:

1. Skin fresheners or bracers:

It is moderate form of skin toner. Toner having water and glycerine (humectant). Humectant moisture the skin surface. Rosewater is the popular example of it. It is most suitable for normal, dehydrated and sensitive skin.

1. Skin tonics:

Skin tonics are normally stronger and having small amount of alcohol (up to 20%), water and a humectant ingredient. Good example of a skin tonic is orange flower water. Skin tonics are acceptable for use on the oily skin.

1. Acid toner:

These are a strong form of toner that typically contains alpha hydroxy acid and or beta hydroxy acid. Glycolic, Lactic, and Mandelic acids are the most commonly used alpha hydroxy acids, best suited to exfoliate the surface of the skin. Salicylic acid is the most commonly used beta hydroxy acid best for exfoliating into the deeper layers of the skin

Astringents: Toners get rid of such remaining impurities to supply your face an additional and complete cleanse.

- The appearance of pores can minimize by regular use of the toner.
- Toners are helpful to reinstate the pH balance of the skin.
- Toner has a tendency to soak quickly into the skin, giving it an instant boost of hydration.

Astringents are the strongest form of toner and they contain a high amount of alcohol (20–60%), water, antiseptic ingredients and a humectant ingredient. These can be damaging and irritating to the skin, because they can remove excess protective lipids in the skin, when they uses high amount of alc oho

Advantages of Skin Toner:-

They are good humectants since they contain substances like glycerin. It means they aid in the absorption of moisture through the skin. They prepare the skin so that it can absorb the serums and creams that will be used in the future.

Disadvantages of skin toner:

- Toners containing alcohol cause the skin to become dry and flaky.
- In cosmetics, skin toner or simply toner refers to a lotion or wash designed to cleanse the skin and shrink the appearance of pores, usually used on the face. it also moisturizes, protect, and refreshes the skin.

Toners can be applied to the skin in different ways:-

- On a cotton round. (This is the most frequently used method.)
- Spraying onto the face.
- By applying a tonic gauze facial mask a piece of gauze is covered with toner and left on the face for a few minute.

Mechanism of Spray Action:-

The mechanism of action of the face spray toner can be explained as follows:



Fig. No. 4: Design of a Spray



e-ISSN: 2582-5208 ology and Science

International Research Journal of Modernization in Engineering Technology and Science

(Peer-Reviewed, Open Access, Fully Refereed International Journal) Volume:06/Issue:07/July-2024 Impact Factor- 7.868 www.irj

www.irjmets.com

Mechanism of action of the spray formulation:-

When the button on the top of the spray bottle is pressed, it pumps the grooved button. This pumping action forces the air from the nozzle to the dip tube. Now there is a drop in the pressure of top of tube due to pressing the top button. After this difference pressure falls in the tube and the liquid is foced up from the tube. The liquid now leaves the nozzle through the actuator as small mist droplets due to pressure and applied on skin through force penetrating inside skin.

II. REVIEW OF LITERATURE

- 1 Vibhavari M. Chatur et. al,(2021) in this study the herbal face toner formulation was developed The study is aimed to formulate a natural and safe herbal skin toner that has a calming, soothing, effect on the facial skin to reduce the facial irritancy and bring freshness, also to enhance the beauty. The Cucumber and Aloe vera extract used gives excellent results and safety for sensitive skin types and can be used on daily basis.
- 2 Miss. Sapana Mhaske et. al,(2022) this study aimed to explore Natural remedies have lesser side effects, secure and also acceptable than chemical ones. In the world market, formulations with natural ingredients have more accesible. For delivering the drug imediately to the site of action, which gives prolonged action is the benefits of topical drug delivery system. Skin is the main path of delivery of drug in TDDS. The ingredients are easily available which are being used.
- **3** Sanjay G Walode et.al, 2021). The main aim of this project was to formulate a natural and safe herbal skin toner which has calming, soothing, and astringent, effect on the face and skin to reduce the facial irritancy and enhance the beauty and can be used in day today busy schedule. The extracts used are from the ingredients which are easily available, economical and has nutritional value from topical point of view. Toner has gained the popularity as it can be used daily and helps in restoring the skin texture hence the purpose of the study was aimed for the similar formulation.
- **4 Novia Restu Windayani,et.al,(2021)** this article focuses on to formulate and evaluateThere are various kinds of facial skin, one of which is a problem for mothers with dry skin due to hyperpigmentation that appears and wrinkles on the face. Dates used in making toners are ajwa dates because they have less sugar content than other types of dates, making them easier in the manufacturing process. The purpose of research on antioxidants and vitamin C in date water toner products and analysis of date water toner for dry facial skin in terms of sensory tests, preference tests, and clinical trials. The method used is the experimental method.
- **5** Monali parbhane,et.al(2021) the primary goal of making herbal face toner is to maintain the tonicity of the skin. There are a veriety of herbal face toners available on the market that have some side effects, such as itching and inflammation.an attempt was made to make aherbal face toner using convolvulus prostrates extract (which as anti-inflammatory properties) ,aloe vera gel (which has anti fungal properties),and glycerine (which has lubricating properties) for your skin.colour , smell ,pH ,skin irritation tests and antimicrobial activity are among the factors used to evalute herbal face toner.

HERB AND EXCIPIENT PROFILE:-

- 1 Cucumber
- 2 Scientific Name Cucumis sativus L.
- 3 Family Cucurbitaceae
- 4 Kingdom Plantae
- 5 Active constituents Ascorbic acid (vit c), caffeic acid
- 6 Use Smoothening of the skin, Antioxidant action, Rejuvension of skin.
- 7 **Medicinal Importance** Cucumber has loads of water content to keep skin hydrated. The cooling properties along with antioxidants and silica present in cucumbers help rejuvenate the skin. The flesh of the cucumber is mostly water, but also contains ascorbic acid (vitamin C) and caffeic acid, both of which help soothe skin irritations and reduce swelling and these acids prevent water retention



International Research Journal of Modernization in Engineering Technology and Science (Peer-Reviewed, Open Access, Fully Refereed International Journal)

Volume:06/Issue:07/July-2024

Impact Factor- 7.868

www.irjmets.com



Fig No.4: Cucumber

2. Aloe Vera

- Scientific Name Aloebarbadensis miller.
- Family Asphodelaceae
- Kingdom Plantae
- Active constituents Water (98%) and polysaccharides, including pectin, cellulose, hemicellulose, glucomannan, and acemannan.
- Uses Prevents and treats acne and dry skin, antioxidant effect, cooling effect, hydration of the skin



Fig No.5: Aloevera gel

- 3. Honey
- Scientific Name Apis Mellifera
- Family Apidae
- Kingdom Animal
- Active constituents Fructose
- Uses Cleansing action on face, Preservative



Fig.No.6: Honey



International Research Journal of Modernization in Engineering Technology and Science

(Peer-Reviewed, Open Access, Fully Refereed International Journal) Volume:06/Issue:07/July-2024 Impact Factor- 7.868 ww

www.irjmets.com

4. Rose water

- Scientific Name Rosa rubiginosa
- Family Rosaceae
- Kingdom Plantae
- Active constituents Phenyl ethanol, Linalool, Citranellol, Neroli, geraniol
- Uses Flavouring agent, mild astringent effect on pores to avoid dirty pores on the skin
- **Medicinal importance** Anti-Inflammatory Action, Moisturizing and Anti-Aging Agent, Cosmetic & Skin Protection Application, Astringent effect on skin pores Skin whitening Age n



Fig.No.7: Rose water

5. Tomato

- Scientific Name Solanum lycopersicum
- Family Solanaceae
- Kingdom Plantae
- Active constituents Vitamin A, Ascorbic acid, Potassium, folate
- Uses Reduce excess oil, Prevent acne, Tighten pores, Brightens skin
- **Medicinal Importance** Reduce excessive oil, Removal of dead skin, Prevent acne, Relives skin irritation, Improve skin elasticity.



Fig.No.8: Toma to

6. Almond

- Scientific Name- Prunus Amigdalus
- Family Rosoceae
- Kingdom Plantae
- Active constituents Lipid, protein, carbohydrate, Vitamin A, E, omega-3-fatty acid, zinc.
- Uses Antiaging Property, reducing wrinkles, fine line on your face.



International Research Journal of Modernization in Engineering Technology and Science (Peer-Reviewed, Open Access, Fully Refereed International Journal)

Volume:06/Issue:07/July-2024

Impact Factor- 7.868

www.irjmets.com

• **Medicinal Importance-** Help to reverse sun damage, Reduce the appearance of scars, Reduce puffiness and under eye circle, To treat dry skin condition including eczema and psoriasis Improve cell turnover.



Fig.No.9: Almond

- Glycerine
- Ethanol
- Distilled water
- Sandal wood essence.

Information of Excipients

III. AIM & OBJECTIVE

AIM:-FORMULATION, DEVELOPMENT AND EVALUATION OF HERBAL FACE TONER. **OBJECTIVE :**

- The primary goal of making herbal face toner maintain the tonicity of skin.
- To balancing skin pH.
- It also help to tightening skin pore (anti-aging).
- Relieving irritation.
- It is used to stimulate blood circulation.
- The herbal cosmetics is non-toxic in nature, reduce allergic condition.
- It give no side effect as compared to chemical toners.
- The main objective of herbal face toner is rehydrating the skin.

PLAN OF WORK

- Literature survey
- Selection of Herb
- Procurement of Herb
- Materials And Methods
- Formulation of Herbal face Toner
- Evalution parameter Physical Evaluation
- pH
- Skin Irritation
- Stickiness
- Temperature Variation
- Light Exposer
- Result & Discusion
- Conclusion
- Reference

IV. MATERIALS AND METHODS

The following herbal drugs are used.



International Research Journal of Modernization in Engineering Technology and Science (Peer-Reviewed, Open Access, Fully Refereed International Journal)

Volume:06/Issue:07/July-2024

Impact Factor- 7.868

www.irjmets.com

Sr.no.	Name of ingredient	Active constituents	Use/purpose
1	Cucumber extract	Ascorbic acid(vit.c) Caffeic acid	Smoothening of the skin Antioxidant action Rejuvention of skin
2	Aloe vera extract	Water (98%) and polysaccharides, including pectin, cellulose, hemicellulose, glucomannan, and acemannan	Prevents and treats acne and dry skin, antioxidant effect, cooling effect, hydration of the skin
3	Honey	Fructose	Cleansing action on face, preservative
4	Tomato extract	Vit A, ascorbic acid , potassium ,folate	Reduces excessive oil, prevents acne , tighten pores,brightens skin
5	Almond oil	Lipid ,protein,carbohydrate	Antiaging property , reducing wrinkles, fine line on your face
6	Rose water	Phenyl ethanol, linalool, citronellol, neroli, geraniol.	Flavoring agent and mild astringent effect on pores to avoid dirty pores on the skin.
7	Glycerin	-	Relieve dry skin , wound healind process .
8	Ethanol	-	Topical penetration enhancer
9	Distilled water	-	Vehicle
10	Sandal wood essence	-	Perfuming agent

Table No. 1: material

Different formulation of herbal face toner :-

Sr.no.	Name of ingredient	Scientific name	Quantity (50ml)	Percentage
1	Cucumber	Cucumis sativus	12.5 ml	25%
2	Tomato	Solanum	1.5ml	3%
		lycopersicum		
3	Honey	Apis Mellifera	1.5 ml	3%
4	Aloe vera	Alove Barbidensis	2.5m	5%
		miller		
5	Rose Water	Rosa Damascena	5ml	10%
6	Almond Oil	Prunus Amigdalus	2.5ml	5%
7	Ethanol	-	1.5ml	3%
8	Glycerin	-	1ml	2%
9	Distilled Water	-	q.s	Q.S (44%)
10	Sandal wood essence	Genus santalum	2 drops	Q.S(1%)
	Total Qty.		50ml	100%

Table No.4: formulation table for final (S2) batch



International Research Journal of Modernization in Engineering Technology and Science

(Peer-Reviewed, Open Access, Fully Refereed International Journal) e:07/July-2024 Impact Factor- 7.868 ww

www.irjmets.com

Volume:06/Issue:07/July-2024 THE FORMULATION OF THE PRODUCT:

A. Extraction of an active constituent from crude drug.

Preparation of Extract :-

1. cucumber

- For isolating the extract from cucumber, cucumbers were properly peeled, washed and chopped finely
- The chopped material was then crushed in a grinder and the slurry obtained was passed through the muslin cloth in order to obtain the cucumber juice.
- The juice was then lyophilized at a temperature of -70 °C so that a freeze-dried extract in the solid form can be obtained.
- The extracts can be stored by keeping in refrigerator till use

2. Aloe vera gel

Steps for Preparation of aloe vera gel:

- The central parenchymatous pulp was scooped out with a spatula from the Aloe leaves and the pulp was washed repeatedly with water and finally treated with 0.1 N sodium hydroxide (NaOH) to increase the pH of juice and to avoid to acidity in preparation.
- The treated pulp was placed in a blender to obtain the juice.
- The obtained juice was subjected to vacuum filtration to get clear liquid.
- To the clear liquid so obtained, Carbopol 934 was added and dispersed uniformly ensuring no lumps.
- The prepared aloe vera gel was weighed and stored in air tight containers in a dark room to prevent photooxidation to prepare for m

3. Rose water

• Rose water was extracted through steam distillation method in which rose petals were immediately prepared to go through a very meticulous steam- distillation process. The rose petals are kept in chamber with Water

4. Tomato Extract

- For isolating the extract from tomato, washed and chopped finely
- The chopped material was then crushed in a grinder and the slurry obtained was passed through the muslin cloth in order to obtain the tomato juice.
- The juice was then lyophilized at a temperature of -70 °C so that a freeze-dried extract in the solid form can be obtained.
- The extracts can be stored by keeping in refrigerator til l use

B. Preparation of final face toner:

- 1.5 ml of tomato and 12.5ml cucumber juice take in a beaker and stir it.
- Add the 5ml rose water and 1 ml of glycerin in above mixture.
- Then add the 2.5ml of almond oil and the 2.5ml of aloe vera gel.
- Then add 1.5ml of honey in above mixture.
- Add 1.5 ml ethanol in above mixture.
- Makeup the volume with distilled water and stir the mixture.

Container and storage :- To be stored in a well-closed spray container at room temperature.

Direction to use:

- 1. Spray some mist on your clean face or hands.
- 2. Allow the spray some time to remain as it is on the face or surface of hands.
- 3. Wipe out the spray with soft cotton or cloth.
- 4. Use the toner twice a day for better skin rejuvenating results.



International Research Journal of Modernization in Engineering Technology and Science (Peer-Reviewed, Open Access, Fully Refereed International Journal)

Volume:06/Issue:07/July-2024

Impact Factor- 7.868

www.irjmets.com

V. METHODS FOR EVALUATION OF VARIOUS PHYSICAL PARAMETERS OF HERBAL FACE TONER

Evaluation of five batches of herbal face toner formulation are given below.

1. Physical evaluation

In this test colour, odour and state of five formulations were checked.

2. pH

The pH of herabal face toner was determined by using a pH meter. The most accurate common means of measuring pH is through a lab device called Probe and meter or simply a pH meter. The probe consist of a glass electrode through which a small voltage is passed. The meter, voltmeter measures the electronic impedance in the glass electrode and pH unit instead of volt. A pH meter typically has to be calibrated before each use with two standard liquid solutions of Known pH. Measurement is made by submerging the probe in the herbal face toner until a reading is registered in pH meter



Fig.No.: pH Meter

3. Skin irritation-

Skin irritation test was performed by applying face toner on different hands in a 1 cm box and exposed to sunlight for 5 mins to check for any irritation on skin.

After applying face toner on skin and exposed to sunlight no any variety of redness occurred of any one batches of five batches .

4. Stickiness-

The stickiness test was perform by spray face toner on hand and check stickiness of all five batches.

5. Temperature variations-

The formulation was exposed to different temperatures at 450 C and -10 o C for 1 months to check the stability.

6. Light Exposure -

The product is exposed to direct sunlight in its original packaging to see any discoloration of formulation occurs. No discoloration was seen.

VI. RESULT

Evaluation of five formulation are given bellow.

1. Physical evaluation

In this test colour , odour and state of five formulations were checked.

Sr.	Parameter	S1	S2	S3	S4	S5
no.						
1	colour	Lemon yellow	Lemon yellow	Lemon yellow	Lemon yellow	Lemon yellow
2	odour	pleasant	pleasant	pleasant	pleasant	pleasant
3	State	liquid	Liquid	liquid	liquid	Liquid
4	Consistency	Good	Good	Good	Good	Good

Table No.5 :- physical evaluation observation



International Research Journal of Modernization in Engineering Technology and Science (Peer-Reviewed, Open Access, Fully Refereed International Journal)

(1 eei-Kevieweu, (Spen Access, runy Kelereeu miter national	Journal)
Volume:06/Issue:07/July-2024	Impact Factor- 7.868	www.irjmets.com

2. pH

The pH of all the three formulations, S1, and S2, was found to be closer to skin PH, indicating that they can be safely used on skin the pH of all two formulations, S1 and S2, was found to be closer to skin PH, indicating that they can be safely used on skin.

Batch	S1	S2	S3	S4	S5
pH result	5.5	4.9	5.9	5.8	5.9

Table No.6:- pH observation

3. Skin irritation

On the left-hand dorsal surface, make a (1 cm) mark. The toner was spray on left hand dorsal skin and kept for some time , S1, S2 and S4 are not show irritation. According to the findings, none of the five formulations, S3 and S5 showed signs of irritancy and redness.

Batches	S1	S2	S3	S4	S 5
Result	No irritation , no redness	No irritation , no redness	Irritation , redness	No irritation , no redness	Irritation , redness

Table No. 7 :- skin irritation observation

7. Stickiness

The herbal face toner S2 and S3 are non sticky and S1, S4 and S5 are sticky in nature

Batches	S1	S2	S3	S4	S5
Result	Sticky	Non-sticky	Non -sticky	Sticky	sticky

Table No.8 :- stickiness observation

8. Temperature variations

Only S1 change in variation of temperature, other four S2, S3, S4 and S5 are not change.

Batches	S1	S2	S3	S4	S5
Result	Change	No change	change	No change	No change

Table No.9: temperature variation observation

9. Light Exposure

S1, S2, and S5 are not exposure to the light, remaining two S3 and S4 are exposure to light.

Batches	S1	S2	S3	S4	S5
Result	Not exposure	Not exposure	exposure	exposure	Not exposure

Table No 10: light exposure observation

Organoleptic Characteristics

Sr.no.	Parameter	Result
1	Description	Liquid
2	Color	Lemon yellow
3	Consistency	Good
4	Odour	Pleasant

Table No 11: organoleptic property observation



International Research Journal of Modernization in Engineering Technology and Science (Peer-Reviewed, Open Access, Fully Refereed International Journal)

Volume:06/Issue:07/July-2024

Impact Factor- 7.868

www.irjmets.com

Evaluation test result for final S2 Batch

Evaluation result of final S2 batch are as follow.

The interpretation of results on hand



Fig.No: Before application of Toner



Fig.No.: After application of toner



Fig. No: final preparation pic

V. DISCUSSION

From above results we had performed various evaluation test such as physical test, irritancy test, wash ability, pH, viscosity, temperature variation, stickiness, light exposure testing and concluded that the all batches formulation was different from each other. All batches for physical test was performed and observed that the color of all batches (S1, S2, S3, S4, S5) are same is lemon yellow. The odour of all batches (S1, S2, S3, S4, S5) are pleasant and the state of all batches are liquid. S1, S2 and S3, no irritation and no redness, remaining two batches S3 and S5 have irritation and redness and easily washable on tested for washability test. The pH test was performed and concluded that S1 batch having 5.5, S2 batch having 4.9, S3 batch having 5.9, S4 batch having 5.8, S5 batch having 5.9. S1 and S2 have good pH. S2, S4 and S5 are not change with variation of temperature, S1 and S3 are change. S1, S2 and S5 are not expose in presence of light.

VI. CONCLUSION

The results from the spray tonner formulation were very satisfactory. All the ingredients were procured fresh from the local market and they were economical as well as useful top. The purpose behind the toner formulation was to achieve the cooling and toning effect on the skin was found to be satisfactory. Similarly, the intention behind formulating it in the mist form was to ease in carrying the formulation and application whenever and wherever needed. And the studied formulation proved to be satisfactory from that perspective as well. After application, there was no irritability, rashes but, some cleansing effect was observed. It is suggested that the prepared formulation is physiochemically stable, and possessed characteristics of a standard cosmeceuticals' formulation for skincare. The spray formulation gave a more effective form to this formulation because spraying smaller particles on the skin with a certain amount of force made the formulation penetrate the small pores of the skin in a better way than any other form like gel or lotion. It proved that from that study, the herbal face toner was prepared is effective for the smoothning, calming and astringent effect on the skin. The herbal formulation have certain advantages like easy application and no any side effect and its mostly preffered. The results from the spray tonner formulation were very satisfactory.



International Research Journal of Modernization in Engineering Technology and Science (Peer-Reviewed, Open Access, Fully Refereed International Journal)

Volume:06/Issue:07/July-2024

www.irjmets.com

Impact Factor- 7.868VII.REFERENCES

- [1] Miss. Sapana Mhaske, Miss. Vaishnavi Wayal, Miss. Harshada Tribhuvan et.al International Journal of Advanced Research in Science, Communication and Technology (IJARSCT), June 2022 Volume 2, Issue 5.page no. 2581-9429.
- [2] Vibhavari M. Chatur, Sanjay G. Walode, Siddhi A. Awate, Minal U. Gandhi, Vaishnavi S. Thorat. et.al Human Journals Research Article May 2021 Vol.:21, Issue:2.page no. 335-345.
- [3] Vibhavari M. Chatur, Sanjay G. Walode, Siddhi A. Awate, Minal U. Gandhi, Vaishnavi S. Thorat. et.al Human Journals Research Article May 2021 Vol.:21, Issue:2.page no. 335-345.
- [4] Vibhavari M. Chatur, Sanjay G. Walode, Siddhi A. Awate, Minal U. Gandhi, Vaishnavi S. Thorat. et.al Human Journals Research Article May 2021 Vol.:21, Issue:2.page no. 335-345Vibhavari M Chatur , Sanjay G Walode, Siddhi A Awate, Minal U Gandhi and Vaishnavi S Thorat. et.al Institute of Pharmaceutical Education and Research, Chinchwad, Pune 19, Maharashtra, India. World Journal of Advanced Research and Reviews, 2021, 11(01), 138–145
- [5] Pathompong Meethama, Mayuree Kanlayavattanakul,Nattaya Louritha.et.al school of cosmetics science,maefahluang university,chirai, thailand. Revista Brasileira de Farmacognosia(2018) page no. 214-217.
- [6] Structure of skin by Dr. jikisha jain 1 st year resident (M.D DVL).
- [7] https://api.kramesstaywell.com/Content/ebd5aa86-5c85-4a95-a92a-a524015ce556/ucr-imagesv1/Images/anatomy-of- -the-skin-125522
- [8] https://www.researchgate.net/figure/Schematic-representation-of-epidermis-layer-of-humanskin_fig3_348644834
- [9] https://www.google.com/imgres?imgurl=https%3A%2F%2Fncimedia.cancer.gov%2Fpdq%2Fmedia
 %2Fimages%2F579036.jpg&tbnid=C6j072erESKCM&vet=1&imgrefurl=https%3A%2F%2Fwww.cance
 r.gov%2Fpublications%2Fdictionaries%2Fcancerterms%2Fdef%2Fdermis&docid=WoD9HRBKoysV_
 M&w=3150&h=2523&hl=en-IN&source=sh%2Fx%2Fim
- [10] https://www.google.com/imgres?imgurl=https%3A%2F%2Fwww.jiomart.com%2Fimages%2Fproduc t%2Foriginal%2F590003548%2Fcucumber-500-g-product-images-o590003548-p590003548-0-202203152002.jpg&tbnid=gfj8e9MsMFqf9M&vet=1&imgrefurl=https%3A%2F%2Fwww.jiomart.com %2Fp%2Fgroceries%2Fspring-onion-per-bunch%2F590003548&docid=Om8j6I4o9X dj2M&w=1000&h=1000&hl=en-IN&source=sh%2Fx%2Fim
- [11] https://www.google.com/imgres?imgurl=https%3A%2F%2Fthumbs.dreamstime.com%2Fb%2Faloe-vera-gel-aloe-sliced-aloe-vera-gel-aloe-sliced-wood-background-172164756.jpg&tbnid=wRhSMq9uMHsNPM&vet=1&imgrefurl=https%3A%2F%2Fwww.dreamstime.com%2Fphotos-images%2Faloe-vera-gel.html&docid=A3AmDi0-tv2_vM&w=800&h=534&itg=1&hl=en-GB&source=sh%2Fx%2Fim
- [12] https://images.app.goo.gl/d5nBk977HJ66z2jdA
- [13] https://www.google.com/imgres?imgurl=https%3A%2F%2Fwww.skh.com%2Fwpcontent%2Fuploads%2F2021%2F05%2Fimage1.jpg&tbnid=91tUeQ90rpQD-M&vet=1&imgrefurl=https%3A%2F%2Fwww.skh.com%2Fthedish%2Fdifferent-typestomatoes%2F&docid=BDXdhW7PdSrDVM&w=1999&h=1333&hl=en-IN&source=sh%2Fx%2Fim
- [14] https://www.istockphoto.com/photos/rose-water
- [15] https://www.google.com/imgres?imgurl=https%3A%2F%2Fmedia.istockphoto.com%2Fid%2F54480
 5862%2Fphoto%2Falmond-oil-andmonds.jpg%3Fs%3D612x612%26w%3D0%
 26k%3D20%26c%3D5GeWkgJl0p45EJ7oWtwKMN4w36ug8