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* **IN THE HIGH COURT OF DELHI AT NEW DELHI**

\+ C.A.(COMM.IPD-PAT) 467/2022

DIAMOND STAR GLOBAL SDN. BHD. ..... Appellant
Through: Mr. Sudhir Kumar and Ms. Madhuri Rawat, Advs.

Versus

JOINT CONTROLLER OF PATENTS AND DESIGNS
..... Respondent
Through: Mr. Harish Vaidyanathan Shankar CGSC, Mr. Srish Kumar Mishra, Mr. Sagar Mehlawat and Mr. Alexander Mathai Paikaday, Advs.

CORAM:
HON'BLE MR. JUSTICE C. HARI SHANKAR

JUDGMENT (ORAL)

% 29.03.2023

The Dispute

1. The human body is a storehouse of disease. Several malevolent microorganisms, bacterial as well as fungal, make residence within its folds. While the Maker has provided an outer layer of skin, to protect the inner organs of the body, the skin itself is infested by numerous microorganisms. These infestations, and the need to address various ailments that they cause, constitute the malady that the appellant's invention, purports to address.

2. Wood of various trees which were recently living, when pyrolyzed, produces wood vinegar. Wood vinegar, when added to skin care preparations, can result in elimination of bacteria and other

microorganisms that reside in the skin. Not all microorganisms are, however, malevolent. Among the microorganisms in the skin are also, to be found, beneficial lactic acid bacteria. Existing chemicals which are added to skin care preparations tend to eliminate both harmful and beneficial bacteria, without discrimination. Wood vinegar obtained from the *Rhizophora apiculata* tree, when added to skin care preparations in a concentration of 18-22% by weight, attacks only harmful microorganisms, while leaving, unscathed, the beneficial lactic acid bacteria. Additionally, the wood vinegar obtained from *Rhizophora apiculata* has, over other wood vinegars, the advantage of being free of guaiacol, which has an undesirable pungent odour. The skin care formulation that the appellant seeks to patent, which it calls "Hygiene Wash", contains wood vinegar obtained from the *Rhizophora apiculata* tree, in a concentration of 18 to 22%.

3. The Controller of Patents ("the Controller") has, by order dated 2nd June 2022, rejected the appellant's application for grant of a patent for its "Hygiene Wash". Aggrieved, the appellant has approached this Court.

4. This, then, is the controversy, *in precis*.

Facts

5. With that background, one may reconnoitre the facts, in somewhat greater detail.

6. Application No. 202017054505 dated 15th December 2020, which stands rejected by the impugned order, shall be referred to, hereinafter, as "the application". The complete specifications relating to the proposed suit patent, as filed with the application, note, with some trepidation, that several skin problems, such as acne, rash, cellulitis, leprosy, candidiasis and ringworm, result as a consequence of micro-infestation of the skin by bacterial and fungal organisms. The need to maintain personal hygiene, including skin care, is, therefore, of the essence. This requirement has resulted in the syntheses, over a period of time, of several formulations for use in maintaining bodily cleanliness. These preparations contain antimicrobial substances. These antimicrobials, however, according to the specifications in the proposed patent of the appellant, do not possess the capability of distinguishing between beneficial and harmful microorganisms. They also eliminate, in their action, beneficial lactic acid bacteria. Therefore, states the specification, "it would be advantageous for the present market of personal care products to have antimicrobial formulations that can selectively inactivate or eliminate pathogenic microorganisms, but not lactic acid bacteria that are beneficial to human skin."

7. Among the compounds which could be added during the preparation of personal care skin products are, asserts the complete specifications, are wood vinegars. Wood vinegars contain over 200 organic compounds, many of which possess strong antioxidant and antimicrobial properties. As the concentration of wood vinegars, obtained from different sources, however, varies, the application asserts that, before they are applied in skin care and personal care hygiene preparations, specific formulation strategies have to be

devised.

8. The application further states that several of the wood vinegars contain guaiacol, which emits an undesirable pungent smell. Ergo the necessity of isolating wood vinegar which did not contain guaiacol, from an appropriate source, and working out the optimised concentration in which the wood vinegar would have to be added to the personal care preparation so as to achieve optimum antimicrobial properties.

9. Guided by these considerations, the appellant claims to have isolated wood vinegar from the *Rhizophora apiculata* tree, which does not contain guaiacol. If wood vinegar extracted from the *Rhizophora apiculata* tree is, by following the process outlined in the application, added to personal care preparations in a weight by weight concentration of 18 to 22%, the aim of obtaining a preparation, with no pungent attributes, which would exhibit antimicrobial activity only against harmful microorganisms, while retaining beneficial lactic acid bacteria, would, so claims the application, be achieved. By following the procedure suggested in the appellant's application, it is claimed that wood vinegar, from *Rhizophora apiculata*, could be added to the skin care preparations after concentration of 18% to 22 %.

10. This, asserts the appellant, would result in optimum antimicrobial action of the concentration wood vinegar, so added, without the disadvantage of the pungency of guaiacol. In this concentration, the appellant contends that the wood vinegar would act only against harmful microorganisms even while retaining beneficial lactic acid bacteria. The summary of the invention, as provided by the

appellant to the Controller of Patents, reads as under:

> "SUMMARY OF THE PRESENT INVENTION
>
> The present invention features an antimicrobial agent, wood vinegar (also known as pyroligneous acid).
>
> *This invention more specifically relates to a method for preparing a personal care product, comprising steps of obtaining a wood vinegar and adding the wood vinegar into the personal care product so that the wood vinegar makes up 18-22% of the total weight or volume of the personal care product.*
>
> The wood vinegar is obtained by pyrolysis of *Rhizophora apiculata*, wherein the wood vinegar inactivates or kills microorganisms that cause skin and urinary tract infections but retains a substantial amount of beneficial microorganisms, which helps defend against attack by pathogenic microorganisms.
>
> *Preferably, the wood vinegar is obtained without having guaiacol.*
>
> *Preferably, the beneficial microorganisms retained are lactic acid bacteria.*
>
> *Preferably, the wood vinegar makes up 20% of the total weight or volume of the personal care product.*
>
> Further in the proposed method, the wood vinegar is left to age for at least three months before being purified and added into a personal care product. Then, the wood vinegar is purified by filtration or distillation to remove impurities.
>
> The parts of *Rhizophora apiculata* used for pyrolysis include barks, stems, branches, roots, leaves or any combination thereof,
>
> The purified wood vinegar contains, but not limited to, syringol, benzoic acid, maltol, catechol and vanillin.
>
> In some embodiments, the personal care product includes, for example, feminine intimate wash, shower gel, soap, facial and cosmetic products, perfume, body lotion, hair shampoo and conditioner, hair grooming products, ointment, antiseptics, and other skin and oral care products.
>
> Preferably, an antidegradation stabilizer is added into the personal care product.
>
> Preferably, a surfactant or detergent to reduce surface tensions of liquid—liquid or liquid—solid interfaces is added into the personal care product.

Preferably, a gelling agent and/or emulsifier is added into the personal care product.

In another embodiment, this invention describes a personal care product comprising
a purified wood vinegar that is added into the personal care product so that the wood vinegar makes up 18-22% of the total weight or volume of the personal care product.

The wood vinegar is obtained by pyrolysis of *Rhizophora apiculata*, wherein the wood vinegar inactivates or kills microorganisms that cause skin and urinary tract infections but retains a substantial amount of beneficial microorganisms.

The present invention consists of features and a combination of parts hereinafter fully described and illustrated in the accompanying drawings, it being understood that various changes in the details may be made without departing from the scope of the invention or sacrificing any of the advantages of the present invention."

11. The appellant submitted, on 15th December 2020, Indian PCT National Phase Application No. 202017054505, corresponding to WIPO PCT Application No. PCT/MY2018/050045, dated 6th July 2018, for grant of registration of a patent in respect of the aforesaid invention "Hygiene Wash".

12. The application had 15 claims which were later reduced to 14 and, thereafter, to 10. The final ten claims, as claimed by the appellant, read thus:

"1. A method for preparing a personal care product, comprising steps of:

obtaining a wood vinegar; wherein the wood vinegar is obtained by process comprising the steps of:

pyrolising a wood to produce a smoke and a char;

condensing the smoke in a condenser, through which cooling water is passed in from one end and goes out from the condenser to cool the smoke into a condensate;

releasing unwanted gas and collecting the condensate at the bottom of the condenser;

separating the condensate into a freshly extracted wood vinegar; bio-oil and bitumen;

ageing the freshly extracted wood vinegar for at least three months;

purifying the wood vinegar by filtration or distillation to remove impurities from the wood vinegar;

adding the purified wood vinegar into the personal care product, and adding an antidegradation stabilizer, a surfactant and a gelling agent into the personal care product,

characterized in that the wood is from Rhizophora apiculata, the wood vinegar makes up 18-22% of the total weight or volume of the personal care product, and the wood vinegar contains syringol, benzoic acid, maltol, catechol and vanillin, but is free from guaiacol, wherein the wood vinegar inactivates or kills microorganisms that cause skin and urinary tract infections but retains a substantial amount of beneficial microorganisms.

2. The method for preparing a personal care product as claimed in claim 1, wherein the beneficial microorganisms retained are lactic acid bacteria.

3. The method for preparing a personal care product as claimed in claim 1, wherein the wood vinegar makes up 20% of the total weight or volume of the personal care product.

4. The method for preparing a personal care product as claimed in claim 1, wherein the parts of *Rhizophora apiculata* used for pyrolysis include woods and leaves from barks, stems, branches, roots or any combination thereof.

5. The method for preparing a personal care product as claimed in claim 1, wherein the personal care product includes, for example, feminine intimate wash, shower gel, soap, facial and cosmetic products, perfume, body lotion, hair shampoo and conditioner, hair grooming products, ointment, antiseptics, and other skin and oral care products.

6. The method for preparing a personal care product as claimed in claim 1, wherein an the antidegradation stabilizer prevents degradation of the personal care product due to inactivation.

> 7. The method for preparing a personal care product as claimed in claim 1, wherein the surfactant reduces the surface tension of the personal care product.
>
> 8. The method for preparing a personal care product as claimed in claim I, wherein the gelling agent thickens the personal care product.
>
> 9. The method for preparing a personal care product as claimed in claim 1, wherein an emulsifier is added into the personal care product.
>
> 10. A personal care product prepared by the method as claimed in claims 1 to 9, comprising: a wood vinegar that makes up 18-22% of the total weight or volume of the personal care product;
>
> an antidegradation stabilizer;
>
> a surfactant; and
>
> a gelling agent,
>
> characterized in that the wood vinegar is obtained from wood of *Rhizophora apiculata* and contains syringol, benzoic acid, maltol, catechol and vanillin, but is free from guaiacol, wherein the wood vinegar inactivates or kills microorganisms that cause skin and urinary tract infections but retains a substantial amount of beneficial."

It is apparent that Claim 10 is the substantive product claim, claiming the personal care product prepared by the methods claimed in Claims 1 to 9.

13. Consequent to preliminary scrutiny of the appellant's application, First Examination Report (FER) dated 29th July 2021 was issued to the appellant by the Controller of Patents. The summary of the FER certified the existence of novelty and industrial applicability for all fifteen claims, but, in a somewhat contradictory vein, disputed the claims as lacking in any inventive step as defined in Section

2(1)(ja)[1] of the Patents Act. Part 1 of the Summary of the Report read thus:

Sl. No.	Requirements under the Act		Claim numbers	Remarks
1.	Invention u/s 2(1)(j)[2]	Novelty	Claims: 1 – 15	Yes
			Claims:	No
		Inventive step	Claims:	Yes
			Claims: 1 – 15	No
		Industrial Applicability	Claims: 1 – 15	Yes
			Claims:	No
2.	Claims [u/s 10(5) & 10(4)(c)]	Definitive	Claims:	Yes
			Claims: 1	No
3.	Other requirement(s): Please first define your invention and then state its novelty and inventive step. You are simply adding the wood vinegar into the personal care product to obtain a disinfectant product. In other words you are simply utilising properties of wood vinegar.			

14. Thereafter, the FER proceeded thus:

(i) Serial no. 2 in the FER, which pertained to "sufficiency of disclosure" was left blank.

(ii) The FER objected to Claim 1 in the suit patent under Section 10(5) of the Patents Act, as it did not include all parameters of the reaction and was not, therefore, definitive.

(iii) The subject matter of claims 3 to 4 and 10 were alleged to have no technical feature and not, therefore, patentable under Section 2(1)(ja) of the Patents Act.

[1] (ja) "inventive step" means a feature of an invention that involves technical advance as compared to the existing knowledge or having economic significance or both and that makes the invention not obvious to a person skilled in the art;

[2] (j) "invention" means a new product or process involving an inventive step and capable of industrial application

(iv) On the existence of inventive step, the objection in the FER was that claims 1 to 15 in the appellant's application lacked an inventive step within the meaning of Section 2(1)(ja) of the Patents Act, in the light of prior art documents D-1 to D-3. The FER proceeds to explain the reason why, thus:

> "1). INVENTIVE STEP:
>
> Claim(s) (1-15) lack(s) inventive step, being obvious in view of teaching (s) of cited document(s) above under reference for the following reasons:
>
> The subject matter of claims 1-15 of the present application lacks an inventive step u/s 2(1)(ja) of The Patents Act, 1970 in light of the prior art documents D1-D3.
>
> *The present application relates to a method for preparing a personal care product comprising steps of obtaining a wood vinegar and adding the wood vinegar into the personal care product.*
>
> The prior art document D1 which has been considered as the closest to the subject matter of present case disclosed cosmetic composition, characterized in that it comprises 0.5% to 5.0% by weight in mixing wood vinegar with the cosmetic composition (claim 1). The prior art document D1 mentioned less percentage of wood vinegar as compared to present case and is also silent on presence or absence of guaiacol.
>
> The prior art document D2 discloses compound (guaiacol) extracted from wood vinegar, and the wood vinegar used for extraction is a substance obtained through thermal decomposition (pyrolysis) of trees. The prior art document D2 teaches to obtained guaiacol from wood vinegar through pyrolysis in other way itis method for obtaining wood vinegar free from guaiacol.
>
> The prior art document D3 discloses a device capable of separating and purifying phenol compounds such as 2,6-dimethyl oxo phenol and guaiacol from wood tar as a biomass pyrolysis byproduct and has the advantages of being economic and efficient, free of secondary pollution, high in purification compound concentration.
>
> The teachings of prior art documents D2-D3 motivates to

obtain wood vinegar free from gualacol and that of D1 suggest addition of wood vinegar in cosmetics.

Hence, the problem to be solved is considered to be a minor modification. Routine experimentation would lead the skilled person to the solution of the present application. Further, no outstanding technical advancement as compared to the knowledge described in D1-D3 has been described in the specification. Therefore, from the teaching of document D1-D3, any person skilled in the art can arrive at the present application without any technical advancement. To prove an inventive step, the applicant should relate the distinguishing features of the present application over the cited prior art documents to a surprising technical effect or make plausible that this distinguishing feature is not obvious in light of the prior art teaching of D1-D3. Therefore, the subject matter of claims 1-15 lacks an inventive step u/s 2 (1) (ja) of The Patents Act, 2005 in view of the cited documents D1-D3."

15. The appellant replied to the aforesaid FER on 8th November 2021. Apropos the prior arts D1 to D3, the appellant's reply stated thus:

Distinction between D1 and present invention	
D1 (KR20030005075A)	**Present Application**
… collects smoke generated when carbonizing oak wood (curse) wood at a smoke temperature of 80-150°C, cools it rapidly, and suspends or distills the crude wood vinegar for 6 to 12 months. It is made with more than 85% water and the rest is organic acid as the main component. In addition, it contains more than 200 kinds of organic substances and compounds such as minerals and vitamins, and has a unique scent (smoky flavor). The content of wood vinegar in the cosmetic composition according to the present invention is preferably 0.5 to 5% by weight based on the total amount of the	... obtaining a wood vinegar; and adding the wood vinegar into the personal care product so that the wood vinegar makes up 18-22% of the total weight or volume of the personal care product, .. the wood vinegar is obtained by way of condensing a smoke generated from pyrolysis of *Rhizophora apiculata* into a condensate, separating and purifying the wood vinegar from the condensate, ... the wood vinegar inactivates or kills microorganisms that cause skin and urinary tract infections but retains a substantial amount of beneficial microorganisms.

composition.

Extensive experimentation as shown in the specification has found that the wood vinegar added into the personal care product in the concentration if 18-22% is able to eliminate harmful microorganisms while retaining beneficial microorganisms. This is significantly different from the wood vinegar in D1, which requires distillation for 6-12 months and is used at a different concentration (0.5-5%). It is also not merely using the properties of wood vinegar, but carefully formulating personal care products using the wood vinegar derived from an inventive process from a mangrove plant at a tested concentration.

Distinction between D2 and present invention:

D2 (JP20075107156A)	**Present Application**
Preferably, the pharmaceutical composition of the present invention including the guaiacol family compounds and the syringol family compounds, extracted from the natural plant vinegar contains 10-6 to 90 weight% of the guaiacol compound and 10 to 90 weight% of the syringol compound by the total weight of the compound. On the while, the guaiacol family compounds and the syringol family compounds are compounds extracted from the natural plant vinegar and the natural plant vinegar used to extract has advantage of being very stable to heat due to compounds obtained from heat decomposition of trees.	… obtaining a wood vinegar; and adding the wood vinegar into the personal care product so that the wood vinegar makes up 18-22% of the total weight or volume of the personal care product, … wherein the wood vinegar is obtained without having guaiacol.

The surprising effect of this invention is that the wood vinegar obtained from the pyrolysis of *Rhizophora apiculata* as in the aforementioned method is free from guaiacol without separately extracting guaiacol. This resulted from substantial experimentation, which would not have been achieved using any plant. D2 teaches away from the present invention because guaiacol is preferred in D2, whereas it is undesired in the present invention. Therefore, a person skilled in the art will not be motivated to learn D2 to come up with the present invention. In biochemistry, it is in appropriate the assume that a teaching as regard to the extraction of guaiacol from wood vinegar would inherently teach a person to extract wood vinegar free from guaiacol because the extraction protocol

would be substantially different. For example, the rest of the wood vinegar would have been contaminated or turned into a waste product after extracting guaiacol.	
Distinction between D3 and present invention	
D3 (CN107573222A)	**Present Application**
The wood tar fine purification device establishes a fine purification segmentation process for wood tar, and obtains crude phenol of phenolic compounds such as 2,6-dimethyloxyphenol and guaiacol by distillation, and then passes through distilliation. The process obtains a high concentration of final product after purification.	… obtaining a wood vinegar; and adding the wood vinegar into the personal care product so that the wood vinegar makes up 18-22% of the total weight or volume of the personal care product … the wood vinegar is obtained by way of condensing a smoke generated from pyrolysis of *Rhizophora apiculate* into a condensate, separating and purifying the wood vinegar from the condensate, …
The purification device of D3 focusses on the distillation, reflux set-up and process for the extraction of phenolic compounds from readily provided wood vinegar, but NOT on the extraction of wood vinegar from plants by pyrolysis. Besides, there is no mention on the use of such extracts in any products. Therefore, D3 should only be considered a relevant background art instead of being taken to make the inventive step of the present invention obvious. As with the argument for D2, it is inappropriate to assume that a teaching as regard the extraction of guaiacol from wood vinegar would inherently teach a person to extract wood vinegar free from guaiacol because the extraction protocol would be substantially different."	

16. The appellant filed written submissions, dated 21st March 2022, before the Controller. Apropos Section 2(1)(ja), the appellant submitted thus:

> "Applicant submits that current formulations for washing or bathing of the human body commonly contain antimicrobial substances, which purportedly kill (bactericidal or fungicidal) or inactivate (bacteriostatic or fungistatic) almost all of the microorganisms present on the skin with 90-99% efficiency upon contact. However, these antimicrobial products do not have the ability to discriminate between microorganisms that are beneficial for the human body and non-beneficial microorganisms. As such, overuse of such antimicrobial products may in turn cause

discomfort and even skin problem due to the loss of beneficial microorganisms that act a natural barrier to defend against attack by pathogenic microorganisms. Beneficial skin microorganisms, such as lactic acid bacteria, in fact constitute human's first line of protection in the immune system.

Therefore, *present invention provides for a personal care product having antimicrobial formulations that can selectively inactivate or eliminate pathogenic microorganisms, but not lactic acid bacteria that are beneficial to human skin.*

Applicant submits that wood vinegars from different species of woody plants contain different compositions of such compounds and hence, require different formulation strategies before being applied to achieve their selective antimicrobial properties. In addition, guaiacol, which contributes to undesirable pungent smell, was also detected in high amounts in wood vinegars from various plant species. *It is therefore an added advantage to utilize an optimized concentration of wood vinegar from a plant species without the presence of guaiacol.*

Applicant submits that *not all types of wood vinegar exhibit the same characteristics/efficacy. Applicant is enclosing herewith Supplementary Report 1 showing the efficacy of the claimed concentrations. The efficacy of the product is also comparable to those of other chemical-based commercial products as demonstrated in Supplementary Report 2 (note that XM2 is the product of the present invention).*

Besides, *many wood vinegars have the pungent smell of guaiacol, unlike those of the present invention where guaiacol is absent. Extensive experimentation found that the wood vinegar obtained from mangrove (Rhizophora apiculata) when added into the personal care product in the concentration of 18-22% is able to eliminate harmful microorganisms while retaining beneficial microorganisms. Which is outstanding technical advancement as compared to existing technical knowledge in respect of personal care product.*

Therefore, present invention fully satisfies the provision of Section 2 (1) (ja) of the India Patents Act 1970 as it involves technical advancement as well as has economic significance which makes the invention not obvious to a person skilled in the art.

It is also pertinent to mention that present invention has been favourably granted in Bangladesh, China and Malaysia.

In view of above submissions, we request the Ld. Controller for withdrawal of the no objection hereinabove in favour of the Applicant.

OTHER REQUIREMENT(S):

1. Applicant reiterates that they are not adding the wood vinegar into the personal care product to obtain a disinfectant product or merely using the properties of wood vinegar. Had that been so obvious the invention of the Applicant would not have been held novel as well as inventive by the ISA in its written opinion. *The distinction of the present invention from the cited art D1 also shows that properties of wood vinegar varies from one plant species to others as well as on the method of obtaining the wood vinegar. Applicant has carefully formulated personal care products by adding wood vinegar derived a mangrove plant (Rhizophora apiculate) at a tested concentration. Extensive experimentation by the Applicant found that the wood vinegar obtained from Rhizophora apiculata by present invention, when added into the personal care product in the concentration of 18-22% is able to eliminate harmful microorganisms while retaining beneficial microorganisms. Besides, many wood vinegars have the pungent smell of guaiacol, unlike those of the present invention where guaiacol is absent.*

2. The Applicant has made revised claim 10 (original claim 14) dependent upon the method disclosed in preceding claims to limit the scope of product to the method disclosed.

In view of the above, the Applicant requests that aforementioned objections may kindly be withdrawn in favour of the Applicant.

SCOPE:

The Applicant submits that *the invention relates to a method for preparing a personal care product, comprising steps of obtaining a wood vinegar*; wherein the wood vinegar is obtained by process comprising the steps of pyrolising a wood to produce a smoke and a char; condensing the smoke in a condenser, through which cooling water is passed in from one end and goes out from the condenser to cool the smoke into a condensate: releasing unwanted gas and collecting the condensate at the bottom of the condenser; separating the condensate into a freshly extracted wood vinegar; bio-oil and bitumen; ageing the freshly extracted wood vinegar for at least three months; purifying the wood vinegar by filtration or distillation to remove impurities from the wood vinegar: adding the purified wood vinegar into the personal care product, and adding an antidegradation stabilizer. a surfactant and a gelling agent into the personal care product, *characterized in that the wood is from Rhizophora apiculata, the wood vinegar makes up 18-22% of the total weight or volume of the personal care product, and the wood vinegar contains syringol, benzoic acid, maltol, catechol and vanillin. but is free from guaiacol, wherein the wood vinegar*

inactivates, or kills microorganisms that cause skin and urinary tract infections but retains a substantial amount of beneficial microorganisms.

Applicant submits that *current formulations for washing or bathing of the human body commonly contain antimicrobial substances, which purportedly kill (bactericidal or fungicidal) or inactivate (bacteriostatic or fungistatic) almost all of the microorganisms present on the skin with 90-99% efficiency upon contact. However, these antimicrobial products do not have the ability to discriminate between microorganisms that are beneficial for the human body and non-beneficial microorganisms. As such, overuse of such antimicrobial products may in turn cause discomfort and even skin problem due to the loss of beneficial microorganisms that act a natural barrier to defend against attack by pathogenic microorganisms.*

Beneficial skin microorganisms, such as lactic acid bacteria, in fact constitute human's first line of protection in the immune system.

Therefore, present invention provides for a personal care product having antimicrobial formulations that can selectively inactivate or eliminate pathogenic microorganisms, but not lactic acid bacteria that are beneficial to human skin.

Applicant submits that *wood vinegars from different species of woody plants contain different compositions of such compounds and hence, require different formulation strategies before being applied to achieve their selective antimicrobial properties. In addition, guaiacol, which contributes to undesirable pungent smell, was also detected in high amounts in wood vinegars from various plant species. It is therefore an added advantage to utilize an optimized concentration of wood vinegar from a plant species without the presence of guaiacol.*

The limitations of plant species (*Rhizophora apiculata*), process of obtaining wood vinegar, composition as well as concentration range (18-22%) and properties of such personal care product retaining beneficial microorganisms have been included to clearly define the scope of the present invention.

Other distinctive features of the invention are already explained in preceding paras {especially relating to 2(1)(ja)} and are not repeated herein for sake of brevity."

(Emphasis supplied)

17. The controller has, by the impugned order, dated 2nd June 2022, rejected the appellant's application. The view of the Controller, in the

impugned order, reads thus:

> "**Controller view**: Specification says that currently available personal care product commonly contain antimicrobial substances, which purportedly kill (bactericidal or fungicidal) or inactivate (bacteriostatic or fungistatic) almost all of the microorganisms present on the skin with 90-99% efficiency upon contact. These antimicrobial products do not have the ability to discriminate between microorganisms that are beneficial for the human body and non beneficial microorganisms. Wood vinegars from different species of woody plants contain different compositions and hence, require different formulation strategies before being applied to achieve their selective antimicrobial properties. The applicant is making a personal care product by adding to it wood vinegar in an amount of 18-22% and obtained from plant species (Rhizophora apiculata) by a known general process of pyrolysis and claim that selecting of wood vinegar from the plant species (Rhizophora apiculata) and that using it in a specific amount (i.e. 18- 22%) in a personal care composition is a novel and inventive part of the invention. The applicant claim that by using wood vinegar from the plant species (Rhizophora apiculata) in a specific amount (i.e. 18-22%), the product is devoid of compound like guaiacol, which is responsible for pungent smell in a product. The applicant also claim that properties of wood vinegar varies from one plant species to others as well as on the method of obtaining the wood vinegar. According to applicant by using Wood vinegar obtained from the plant species (Rhizophora apiculata) in a personal care product it can selectively inactivate or eliminate pathogenic microorganisms, but not lactic acid bacteria that are beneficial to human skin.
>
> In the opinion of the Controller *the applicant has just found /discovered that in wood vinegar obtained from the plant species (Rhizophora apiculata) , guaiacol compound (which is responsible for pungent smell in a product) is missing and he used the vinegar obtained from the plant species (Rhizophora apiculata) (instead of from other source) in making the personal care product* like feminine intimate wash, shower gel, soap, facial and cosmetic products, perfume, body 20 lotion, hair shampoo and conditioner, hair grooming products, ointment, antiseptics, and other skin products.
>
> *The applicant is simply using the inherent germicidal property of the wood vinegar obtained from the plant species Rhizophora apiculata (instead of from other sources) in making the personal care products. Not any experimental based working example is present in the specification for making any personal care product.*
>
> The applicant is claiming method of preparing a personal care product in claim-1 *by just adding wood vinegar obtained from the plant species Rhizophora apiculata into the personal care product and then adding additional adjuvants in it. In between the*

applicant is specifying making of wood vinegar from plant species Rhizophora apiculate and mentioning just broader and common steps of pyrolysis for obtaining vinegar. Not a single experimental based working example is present in the specification which can justify the new pyrolysis method is being applied to obtain wood vinegar from plant species Rhizophora apiculata. The applicant has produced in post hearing written submission a no. of experimental and comparative data for establishing the effectiveness of wood Vinegar in making personal care products. So Controller is not making any comments on the effectiveness of the use of wood vinegar obtained from Rhizophora apiculate in the preparation of personal care products.

For claiming any process in patent application, there must be some experimental based working examples for carrying out such process, which is missing in this application. Mentioning of just steps of any process means these steps are common in art and hence insufficient to define that process.

No user can carry out any experiment or make out the claimed product based on steps of process.

No detail process of making the personal care product using specific wood vinegar is present in the specification. The steps of pyrolysis mentioned in the claim-1 is also common in art (not based on any experimental example).

Decision: So the patent application no. 202017054505 is being refused u/s 15[3] of the Patent Act 1970 on account of insufficient disclosure (as required u/s 10(4)[4] of the Patent Act) of the claimed process in the specification."

18. Aggrieved by the aforesaid decision of the Controller, rejecting its application seeking registration of a patent, in respect of its hygiene wash invention, the appellant has preferred the present appeal under

[3] **15. Power of Controller to refuse or require amended applications, etc., in certain cases**. – Where the Controller is satisfied that the application or any specification or any other document filed in pursuance thereof does not comply with the requirements of this Act or of any rules made thereunder, the Controller may refuse the application or may require the application, specification or the other documents, as the case may be, to be amended to his satisfaction before he proceeds with the application and refuse the application on failure to do so.

[4] (*sans* proviso)

(4) Every complete specification shall –

(a) fully and particularly describe the invention and its operation or use and the method by which it is to be performed;

(b) disclose the best method of performing the invention which is known to the applicant and for which he is entitled to claim protection; and

(c) end with a claim or claims defining the scope of the invention for which protection is claimed.

(d) be accompanied by an abstract to provide technical information on the invention:

Section 117A(2) of the Patents Act, 1970.

Rival Submissions

19. I have heard Mr. Sudhir Kumar, learned Counsel for the appellant and Mr. Harish Vaidyanathan Shankar, learned Counsel for the Controller, at length.

20. Both sides also filed detailed written submissions.

21. Mr. Sudhir Kumar submits, in the first instance, that the impugned order has erred in holding that the applicant's application suffered from insufficiency of disclosure. In fact, he submits, the column relating to "insufficiency of disclosure was left blank in the FER". It was not, therefore, open to the Controller, in the impugned order, to hold that the applicant's application was bad for insufficiency of disclosure.

22. Mr. Sudhir Kumar has further submitted that the invention, which the appellant desired to patent, was eminently patentable. He submits that existing anti-microbial preparations, which were used in personal care products to combat existing bacteria or fungi were clearly deficient *vis-à-vis* the product which the appellant desired to patent. The two main deficiencies which the appellant's invention overcame, according to him, were the pungent smell of guaiacol and the capability of the additive to distinguish between harmful bacteria and beneficial lactic acid bacteria. He submits that the appellant had, by using its inventive faculties, assessed that the wood vinegar obtained from the *Rhizophora apiculata* tree was free of guaiacol and,

therefore, if added to the personal care formulation, would not suffer from the pungent smell which guaiacol imparted to the product. Additionally, when added at a concentration of 18 to 22%, the appellant contended that the preparation would attack only harmful bacteria and would retain beneficial lactic acid bacteria. Two of the major handicaps which were prevalent in existing anti-microbial preparations which were added to such personal care products, therefore, in his submission, were remedied by the invention which the appellant desired to patent.

23. Mr. Sudhir Kumar submits that the impugned order fails to appreciate these facts, and proceeds, in a somewhat myopic fashion, in treating the invention as merely making use of the property already existing in nature, of wood vinegar obtained from *Rhizophora apiculata*. In so doing, he submits that the Controller has failed to note the fact that the appellant was entitled to take credit for identifying the *Rhizophora apiculata* tree, as the source from which to derive the appropriate wood vinegar, and to work out the concentration in which the wood vinegar was required to be added to the skin care preparation, as well as the process to be followed in that regard. These, he submits, constituted "inventive step" within the meaning of Section 2(1)(ja) of the Patents Act. As such, he submits that the impugned order, which proceeds on a premise that the appellant's invention was bad for want of any inventive step as required by Section 2(1)(ja) of the Patents Act was clearly in error.

24. Mr. Vaidyanathan, learned Counsel appearing for the

Controller, relies, *per contra*, on Section 2(1)(ja) as well as 3(c)[5] of the Patents Act. He submits that, inasmuch as it merely sought to rely on the naturally occurring property of wood vinegar obtained from the *Rhizophora apiculata* tree, of being guaiacol-free, the invention that the appellant sought to patent was merely "the discovery of (a) living being or non-living being substance occurring in nature".

25. That apart, Mr Vaidyanathan submits that the appellant's application was inherently defective as, even while acknowledging the fact that wood vinegars were used as additives in personal care preparations to achieve anti-microbial properties, the application did not compare the invention that the appellant sought to patent with other wood vinegars, which would be the appropriate prior art, so as to make out a case of superiority of the wood vinegar obtained from the *Rhizophora apiculata* tree, *vis-à-vis* other wood vinegars, for use as anti-microbials in skin care preparations. He submits that, instead, the appellant was seeking to compare the wood vinegar obtained from the Rhizophora apiculata tree with other chemical formulations which were added to skin care preparations, while assessing their appropriateness and efficacy. Inasmuch as there was no comparison between the wood vinegar which the appellant sought to patent with other wood vinegars earlier used as anti-microbial additives in skin care preparations, Mr. Vaidyanathan submits that the appellant's application was inherently defective.

26. Mr. Vaidyanathan further submits that the process outlined by

[5] **3. What are not inventions**. – The following are not inventions within the meaning of this Act, -

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(c) the mere discovery of a scientific principle or the formulation of an abstract theory or discovery of any living thing or non-living substance occurring in nature; …

the appellant in examples 1 to 9 of the appellant's claim were merely the normal process of pyrolysis by which wood vinegar could be extracted from trees. In the event that the process was inventive in any fashion, he submits that the appellant was required to provide experimental data to demonstrate such inventiveness. Such data, too, in his submission, had not been provided by the appellant.

27. Mr. Vaidyanathan has drawn my especial attention to the objections regarding lack of inventive step as contained in the FER dated 29th July 2021. According to him, the prior art documents D1, D2 and D3, cumulatively seen, clearly indicated that the process and the product which the appellant sought to patent were completely lacking in inventiveness. He has drawn particular attention in this context, to the observation, in the FER, that "the teachings of prior art documents D2-D3 motivates to obtain wood vinegar free from guaiacol and that of D1 suggests addition of wood vinegar sin cosmetics".

Analysis

28. I have heard learned Counsel for both sides and applied myself to the material on record *vis-à-vis* the applicable statutory provisions.

29. The patent regime, the world over, spans two overarching, and equally important, commercial considerations. On the one hand, the very *raison d' etre* of patent is fostering of scientific temper, and protection of the inventive faculties of persons who, expending their scientific and technical knowledge, inventing new products and processes, thereby incrementing the state of existing scientific

knowledge. On the other, the grant of a patent results in a monopoly, in the patent holder, of the right to use the invention during the life of the patent, thereby excluding its availability to all others who may desire to create something similar. The grant of a patent, therefore, carries with it the acceptance that, on the expiry of the life of the patent, the invention would be thrown open to the public. Effecting of minute or non-incremental changes in a patented invention, with a view to claim a new invention and a new patent, therefore, constitutes evergreening of the patent, which is completely proscribed in law. Where, however, the new product, or process, involves a genuine "inventive step" over the existing state of knowledge as represented by prior art, the invention becomes patentable.

30. The task of the authority who is approached with an application seeking grant of a patent – and of the Court seized with a challenge to the decision of the said authority – is, therefore, often to balance these two considerations, and ascertain whether the claimed invention genuinely represents an "inventive step" over existing knowledge in the form of prior art. In arriving at this decision, the authority, and the Court, is required to bear in mind the existing statutory patent regime in force – in India, in the form of the Patents Act, 1970.

31. In this context, the following exordium, from ***Novartis AG v. U.O.I.***[6] which, though rendered in a challenge which involved the application of Section 3(d)[7] of the Patents Act, is clearly of universal

[6] **(2013) 6 SCC 1**

[7] **3. What are not inventions**. – The following are not inventions within the meaning of this Act, -

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(d) the mere discovery of a new form of a known substance which does not result in the enhancement of the known efficacy of that substance or the mere discovery of any new property or new use for a known substance or of the mere use of a known process, machine or apparatus unless such known process results in a new product or employs at least one new reactant.

application as a statement of the law, cannot be afforded to be forgotten:

> "169. Section 2(1)(j) defines "invention" to mean, "a new product or …", but *the new product in chemicals and especially pharmaceuticals may not necessarily mean something altogether new or completely unfamiliar or strange or not existing before. It may mean something "different from a recent previous" or "one regarded as better than what went before" or "in addition to another or others of the same kind*" [The New Oxford Dictionary of English, Edn. 1998.] ."
>
> (Emphasis supplied)

As the discussion hereinafter would disclose, this exordium is of especial relevance in the present case.

32. "Invention" and "inventive step" are defined in clauses (j) and (ja) of Section 2 of the Patents Act as meaning "a new product or process involving an inventive step and capable of industrial application" and "a feature of an invention that involves technical advance as compared to the existing knowledge or having economic significance or both and that makes the invention not obvious to a person skilled in the art" respectively. "Patent" is defined in Section 2(m) as a patent for any invention granted under the Patents Act. Section 3 sets out certain products and processes which are not inventions within the meaning of Patents Act and are not, therefore, patentable. Of these, we are concerned only with Section 3(c) which treats "the mere discovery of a scientific principle or the formulation of an abstract theory or discovery of any living thing or non-living substances occurring in nature" as non-patentable.

33. With this background, I proceed to address and examine the issues in controversy.

34. Section 3(c)

34.1 Mr Vaidyanathan, as already noted, places considerable emphasis on Section 3(c). The provision has, in my considered opinion, to be interpreted as it stands. The word "mere", as used in the opening part of the said Clause would apply, in my opinion, both to the first part, i.e. "discovery of a scientific principle or the formulation of an abstract theory" as well as to the second part, i.e. "discovery of any living thing or non-living substances occurring in nature". It is only *mere* discovery of a living thing, or non-living substance occurring in nature which, therefore, according to me, would fall within the second part of Section 3(c).

35. To analogize the issue to the facts of the present case, for example, if someone were to seek a patent for guaiacol, it would be possible to reject the application on the ground that guaiacol is a substance occurring in nature and, therefore, even if it had not been earlier discovered, the mere discovery of guaiacol was not patentable as an invention, in view of the proscription contained in Section 3(c). This, in fact, appears to me to be one of the major grounds on which the Controller has erred in the impugned order. A running thread, through the impugned order as well as in the FER which preceded it, is the observation of the Controller that the applicant was *merely* seeking to take advantage of the property of a naturally occurring substance, i.e. wood vinegar from the *Rhizophora apiculata* tree, being the absence of guaiacol. To the extent that the appellant was, in fact, stressing on the absence of guaiacol in the wood vinegar obtained from the *Rhizophora apiculata* tree, the observations of the Controller do not brook any cavil. Where, however, the Controller has erred is in

failing to observe that the appellant was not seeking to merely patent wood vinegar obtained from the *Rhizophora apiculata* tree. The claim of the appellant was that, as an antimicrobial additive to skin care preparations, which would be free of any pungent constituents as well as capable of eradicating harmful bacteria even while preserving beneficial lactic acid bacteria, the wood vinegar obtained from the *Rhizophora apiculata* tree, added to the skin care preparations at a strength of 18 to 22%, would provide optimum results. It is in this background that the appellant sought to patent the process by which the wood vinegar obtained from the *Rhizophora apiculata* tree was added to the skin care preparations at a concentration of 18 to 22%, and the product which was so added, in Claims 1 to 14 and Claim 15, respectively, in the appellant's application.

36. Within the ambit of the expression "new product or process" in Section 2(1)(j), as per the law declared by the Supreme Court in ***Novartis AG***[6] would be included not merely "*something altogether new or completely unfamiliar or strange or not existing before"* but also "*something "different from a recent previous" or "one regarded as better than what went before" or "in addition to another or others of the same kind*" ". The Supreme Court, therefore, advocates according, to the expression "new product or process" in Section 2(1)(j), an expansive, rather than a restrictive, interpretation, and Article 141 of the Constitution of India makes that interpretation binding on every authority lower in the judicial hierarchy, including this Court. I do not see how the claims of the appellant, of which it sought a patent, which identified the *Rhizophora apiculata* tree as the appropriate source of the wood vinegar to be used, the process to which the wood vinegar would have to be subject, and the appropriate

strength in which the wood vinegar, so processed, would have to be added, with other additives, while preparing the skin care formulation, can be regarded as lacking in any inventive step. The claims of the appellant are interdependent, not independent, and have to be seen as such.

37. I do not find, in the application submitted by the appellant, any categorical admission that there were other earlier preparations of wood vinegars, which were added to skin care preparations, so as to confer antimicrobial properties. The submission of Mr. Vaidyanathan that the appellant's application was deficient as it did not compare the invention which the appellant sought to patent with other wood vinegars which were added to skin care preparations, so as to demonstrate the greater efficacy or preferable properties of the wood vinegar obtained from the *Rhizophora apiculata* tree and added at a concentration of 18 to 22%, is not, therefore, in my view, acceptable.

38. Even if, *arguendo*, the submissions, were to be accepted, that, in my considered opinion, cannot really constitute a legitimate basis to reject the appellant's application as wanting in any inventive step. There is no denial, in the impugned order, of the fact that no earlier person had recognized the *Rhizophora apiculata* tree as the source of the wood vinegar which was free of guaiacol and, therefore, of the pungency which guaiacol imparted to the wood vinegar, or of the fact that, when added to the skin care preparations at a concentration of 18 to 22%, it would confer optimum antimicrobial properties, which would enable it to selectively target harmful bacteria and retain beneficial lactic acid bacteria. The complete specifications filed by the appellant before the Controller contained detailed workings of

how, when the appellant's product was added, these properties were found to result. As such, it cannot, in my considered view, be held that the appellant's application was lacking even in respect of sufficiency of disclosure.

39. The reliance by Mr. Vaidyanathan on the prior art documents D-1 to D-3 in the FER is also, in my view, not completely justified. If one peruses the reference to the prior art documents D-1 to D-3 in the FER, the following position emerges:

(i) D-1 has been cited merely as a document which envisages mixing of wood vinegar with the cosmetic composition in a concentration of 0.5% to 5%. The FER does not disclose the document D-1 as referring to the beneficial properties which would result as a consequence of such mixing or of presence or absence of guaiacol in the wood vinegar. That apart, the appellant had, in its response to the FER, clearly stated that the wood vinegar disclosed in D1 required 6 to 12 months' distillation. The appellant further averred, in its response, that the beneficial property of selectively targeting harmful microorganisms was the property of adding the wood vinegar at a concentration of 18 to 22%, whereas the D1 prior art envisaged addition of wood vinegar at a concentration of 0.5 to 5%.

(ii) D2 merely claimed a process, by which guaiacol would be extracted from wood vinegar. There is no reference, in D2, to any skin care preparation, much less of the addition, to any skin care preparation, of an additive which would impart, to it,

antimicrobial properties. The appellant also submitted, in its response to the FER, that the utility, of the remnant wood vinegar, after guaiacol was so extracted from it, as an antimicrobial additive to skin care preparations, was entirely a matter of conjecture. The document D2, therefore, was almost completely irrelevant to the invention claimed by the appellant.

(iii) The D-3 prior art again sets out a process of separating and purifying phenolic compounds including guaiacol, from wood tar as a bio mass biolysis product. It did not, moreover, claim usage of the phenolic compounds, so extracted, in any manner. Neither the said claim envisage extraction of wood vinegar from the tree.

40. The FER proceeds, as Mr. Vaidyanathan points out, to observe that a combined teachings of the prior art documents D-2 and D-3 motivated a person's skilled in the art to obtain wood vinegar from guaiacol, and D-1 suggested addition to wood vinegar in cosmetics.

41. What the FER as well as the impugned order of the Controller fails to notice, is that none of the cited prior art documents D-1 to D-3 either identified *Rhizophora apiculata* as the appropriate plant or tree, the wood vinegar of which was free from guaiacol or identified the said wood vinegar as, being most appropriate as an additive to skin care preparations at a concentration of 18 to 22%, to distinguish between the beneficial and harmful bacteria. These two properties, which, in a manner of speaking, constitute USP of the invention which the appellant sought to patent, are not taught by any of the prior art documents D-1 to D-3.

42. The impugned order of the Controller does not contradict any of the grounds on which the appellant had, in its response to the FER, contested D-1 to D-3 as being appropriate prior art. Further, the impugned order of the Controller fails to recognise the inherent inventive step involved in (i) identifying the wood vinegar obtained from the *Rhizophora apiculata* as being free of guaiacol and, therefore, suitable for addition of skin care cosmetics, (ii) working out the composition of 18 to 22% as the appropriate strength in which, on addition of the said wood vinegar to the skin care preparations, optimum antimicrobial properties, which would do away with harmful bacteria even while preserving beneficial lactic acid bacteria. The disclosures in the application submitted by the appellant were, *ex facie*, sufficient to support the claims, the scope of which the impugned order misconstrues.

43. Resultantly, the impugned order dated 2nd June 2022 passed by the Controller must be held to have erred in refusing the appellant's application for grant of patent.

Conclusion

44. Consequently, the impugned order dated 2nd June 2022, passed by the Controller, is quashed and set aside.

45. Inasmuch as this judgment covers the objections contained both in the FER as well as in the impugned order, and there is no other objection to the patenting of the appellant's invention, the invention is held entitled to grant of a patent.

46. The Controller is, therefore, directed to proceed in accordance with law towards grant of patent in respect of the appellant's application.

47. The present appeal stands allowed accordingly.

C. HARI SHANKAR, J.

MARCH 29, 2023

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