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

% *Date of Decision: 23rd February, 2026*

\+ C.A.(COMM.IPD-PAT) 66/2024

GRAINS RESEARCH AND DEVELOPMENT CORPORATION
.....Appellant

Through: Ms. Vindhya S Mani, Advocate.

versus

THE ASSISTANT CONTROLLER OF PATENTS AND DESIGNS
.....Respondent

Through: Mr. Sumit Nagpal, SPC with Mr. Rudra Paliwal, G.P.

CORAM:
HON'BLE MS. JUSTICE JYOTI SINGH

JUDGEMENT

JYOTI SINGH, J. (ORAL)

1. This appeal is filed on behalf of the Appellant under Section 117A of The Patents Act, 1970 ('1970 Act') seeking setting aside of impugned order dated 09.05.2024, whereby Respondent has refused to grant patent under Section 15 of 1970 Act in respect of Indian Patent Application bearing No. 201617030967 filed as PCT Application No. PCT/AU2015/05110 on 17.03.2015 on grounds of lack of inventive step under Section 2(1)(ja) and non-patentability under Section 3(d) of 1970 Act.

2. To the extent necessary, the factual matrix as brought forth in the appeal is that one PB IP Ltd. filed the PCT Application No. PCT/AU2015/05110 on 17.03.2015 having 1-31 claims originally, taking priority from 2014900932 dated 18.03.2014. Present Indian Patent

Application bearing No. 201617030967 with 1-31 claims originally, was filed on 10.09.2016 before the Indian Patent Office. The application was published in the Patent Journal on 30.12.2016 and on 06.03.2018, Request for Examination was made before the Respondent in Form-18. On 28.06.2018, patent application was assigned to The Australian Plant Biosecurity Science Foundation Ltd. ('APBSF'), along with copy of the Deed of Assignment, which was recorded in Australia. The First Examination Report ('FER') was issued by the Respondent on 10.05.2019, to which response was filed by the applicant on 30.10.2019, along with amended claims 1-19 and copies of drawings and abstract.

3. It is stated that on 20.11.2023, first hearing notice was issued under Section 14 of 1970 Act, scheduling the hearing for 26.12.2023, which was deferred on request of the applicant and finally, the hearing was held on 09.02.2024, whereafter written submissions were filed on 23.02.2024 along with amended claims 1-9 and amendments to Complete Specification as also Form-13. On 29.02.2024, second hearing notice was sent scheduling the hearing on 22.03.2024, which was adjourned and fresh hearing notice was sent for 09.04.2024. On 11.04.2024, APBSF appointed a Liquidator. On 23.04.2024, post-hearing written submissions were filed and subsequent thereto, vide impugned order dated 09.05.2024, Respondent rejected the application under Sections 2(1)(ja) and 3(d) of 1970 Act. On 01.08.2024, APBSF assigned the patent application to the Appellant herein and thus the appeal is filed by the Appellant. For the sake of convenience, hereinafter the assignors and the assignees are being referred to as 'Appellant'.

4. As stated in the appeal, present application is a National Phase Application from corresponding PCT Application bearing No. PCT/

AU2015/05110 dated 17.03.2015, which claims priority from Australian Application bearing No. 2014900932 dated 18.03.2014 and is titled 'METHOD OF CONTROLLING INSECTS AND INSECTICIDE FOR USE THEREIN'. The present invention relates to a method of controlling insects in stored food comprising the step of contacting said insects with an effective amount of synthetic amorphous silica, such as food grade synthetic amorphous silica in the form of a dust-based formulation. The invention also relates to solid insecticide formulations comprising an effective amount of synthetic amorphous silica.

5. It is stated that the technical problem that the claimed invention seeks to address is that insects can cause serious public health concerns and insect infestations can result in economic loss for example food spoilage. Admittedly, there are various insecticides available, however, many of these are unsuitable for widespread application due to toxicity. Furthermore, many insecticides tend to be active against a relatively narrow range of targets and only function optimally under very specific conditions e.g. moisture, humidity and temperature. These factors combined with the ever-increasing problem of insecticide resistance means there is a need for new and effective insecticides, particularly those without residue and OH&S issues.

6. It is stated that one area where insect infestations are particularly problematic is in relation to stored food. Stored food such as grain and rice are particularly susceptible to insect infestations. Many solid formulation insecticides, e.g. diatomaceous earth (DE) designed for application to stored food, are less than ideal because they need to be applied in relatively high doses and the food often requires treatment to remove the insecticide before food is safe for processing and/or consumption. The instant application

relates to an invention to cater to the need for more effective and economical insecticides and methods of treatment.

7. It is stated that the present invention provides a food comprising an effective amount of synthetic amorphous silica, which is "food grade" and is suitable for consumption without undue adverse effects. Moreover, the synthetic amorphous silica meets at least one of the food grade certifications: (a) Food Chemical Codex (FCC); (b) the Food and Drugs Administration (FDA) and Australia AICS; (c) Canada CEPA OSL; (d) EU EINECS Number; (e) Japan ENCS; and (f) USA TSCA inventory. Preferably, the synthetic amorphous silica comprises at least 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98% or 99% silica by weight and the synthetic amorphous silica has an average particle size of less than 20000nm, more preferably less than l0000nm and even more preferably, less than 1000nm. It is particularly preferred for the synthetic amorphous silica to have an average particle size of less than 750, 500 or 250nm. In one form of the invention, the average particle of the synthetic amorphous silica is 50-200nm, 100-150nm or 110-120nm. For ready reference, the amended pending claims of the instant application rejected by the Respondent are as follows:-

> *"I/We Claim*
>
> *1. A method of controlling insects in stored food comprising the step of applying to the stored food an effective amount of a food grade synthetic amorphous silica comprising 100-250mg/kg of the stored food and wherein the synthetic amorphous silica has an average particle size of 100-150rn measured by a scanning electron microscope an effective surface area of 185-280m^2/g and at least 98% silica, by weight.*
>
> *2. The method as claimed in claim 1 wherein the insects are controlled for at least 45 days.*
>
> *3. The method as claimed in any one of the preceding claims wherein the food grade synthetic amorphous silica comprises a dust or a powder*

4. The method as claimed in any one of the preceding claims wherein the food grade synthetic amorphous silica comprises at least 99% silica, by weight.

5. The method as claimed in any one of the preceding claims wherein the food grade synthetic amorphous silica has an oil absorption value of 290-320m1/100g.

6. The method as claimed in any one of the preceding claims wherein the food grade synthetic amorphous silica is adapted not to impact on the density of the stored food.

7. The method as claimed in any one of the preceding claims wherein the insect is a beetle.

8. The method as claimed in any one of claims 1 to 7 wherein the insect is an arachnid.

9. The method as claimed in any one of the preceding claims wherein the stored food is grain."

8. Learned counsel for the Appellant assails the impugned order on multiple grounds. It is submitted that impugned order is unreasoned and non-speaking and suffers from non-application of mind. The order has 12 pages, out of which 4 contain the narrative of the prosecution history of the application and also pending claims 1-9. Pages 4 and 5 contain an overall brief about prior arts D1-D7 that were cited collectively in the first and second hearing notices and page 6 contains commonality of elements in prior arts D1-D7 with some attributes required to qualify a person skilled in the art in the field of agriculture and pages 7 and 8 faintly capture submissions made during first and second hearings. Page 9 has discussion on Section 3(d) objection followed by page 10 which has general discussion on the subject matter but without any claim comparison or analysis. Page 11 deals with objections in the second hearing notice and finally page 12 contains the conclusion, rejecting the instant application. Deconstruction of the impugned order would show that its contents have been copied and pasted from the various documents on record and suffers from non-

application of mind and in the absence of independent analysis, the order cannot be sustained in law. Reliance is placed on a decision of the Madras High Court in ***Signal Pharmaceuticals v. Deputy Controller of Patents and Designs, MANU/TN/6445/2024,*** where the impugned order was quashed on the ground that it was a non-speaking order on several aspects and the matter was remanded back for reconsideration on merits.

9. It is argued that the other glaring infirmity in the impugned order is that new and inconsistent objections were raised by the Respondent at all stages of examination of the application, which shows that there was no clarity in the mind of the Respondent and this has also resulted in violation of principles of natural justice, since the Appellant did not get the chance to effectively deal with the objections. Moreover, it is settled that objections in the hearing notice must emerge from the FER and cannot go beyond the scope and limitations of the objections specified in the FER. To demonstrate this point, learned counsel urged that initially the objection was raised under Section 3(d), (e) and (h) of 1970 Act, however, in the First hearing Notice dated 20.11.2023, objection of Section 3 was waived but again in the Second hearing Notice, objection was raised under Section 3(p) and although not specifically mentioned, Section 3(d) was indirectly introduced. Inconsistency is also apparent from the fact that in the FER dated 10.05.2019, it was expressly stated that the instant application had industrial applicability but *de hors* this, an objection was raised under Section 2(1)(ac) in the Second hearing Notice dated 29.02.2024. Further, in the First hearing Notice, Respondent cited entirely new set of prior arts D1 and D3 and in the Second hearing Notice, another new set of prior arts D5-D7 were introduced. The inconsistent objections have not only led to procedural

violations but also principles of natural justice. This also shows that after examining the response of the Appellant to the FER, Respondent was unable to sustain the objection and therefore kept resorting to fresh objections.

10. It is argued that Respondent has completely overlooked that in respect of corresponding applications in foreign jurisdictions, similar claims have been granted such as in Europe, Canada, Australia, Brazil and Indonesia. This demonstrates the inventive merit and patentability, which the claimed invention posits and also highlights the vested commercial interest and industrial applicability of the claimed invention. Reliance is placed on the judgment of this Court in ***Otsuka Pharmaceutical Co. Ltd. v. Controller of Patents, 2022 SCC OnLine Del 4982***, where it was held that acknowledgement of the inventive step in corresponding applications in different jurisdictions leading to grant of patents, affirms the patentability of the subject invention and is a factor which must be taken into account by the Controller of Patents & Designs. Reliance is placed on the order of IPAB in ***OA/03/2017/PT/CHN*** titled ***Stempeutics Research Pvt. Ltd. v. The Controller of Patents***, **decided on 07.08.2020** wherein it was observed that when a similar patent is registered in multiple jurisdictions after having overcome the objection of novelty and obviousness, this factor must be taken into consideration at the time of considering a similar application in other jurisdictions. In the present case, Respondent has not even taken into consideration this crucial factor.

11. It is further argued that Respondent has incorrectly rejected the instant application for lack of inventive step under Section 2(1)(ja) of 1970 Act relying on cited prior arts D1-D7. It was brought before the Respondent that the cited prior arts do not ‘teach’, ‘suggest’ or ‘motivate’ a person skilled in

the art to arrive at the invention claimed in the instant application either by going through the documents alone or in combination. The claimed invention posits both technical and economic significance over the cited prior arts. D1 does not teach, suggest or disclose specific combination of composition and method parameters of pending claim 1 of the instant application. Claim 1 of D1 describes a device comprising a substrate with a non-drying adhesive layer that holds silica aerogel particles and the key focus is on physical structure of the device and its ability to release silica aerogel particles when insect comes in contact with the device and does not disclose method of directly applying synthetic amorphous silica as in the claimed invention. D1 does not disclose direct interaction between silica and stored food, whereas instant application claims a method that controls insects for at least 45 days focusing on duration and effectiveness, a consideration absent in D1. Therefore, inventiveness of instant application lies in assurance of long-term effectiveness in stored food and a person skilled in the art would not have concluded applying food grade synthetic amorphous silica to the stored food or derive the claimed duration of effectiveness from teachings of D1. Further, D1 fails to disclose that silica can be in the form of dust or powder, whereas present application focuses on the form in which silica can be applied, ensuring flexibility and adaptability in various stored food environments and provides an inventive method that can be adjusted as per needs of the stored food unlike D1 which offers a rigid and static solution. D1 teaches away from the application of synthetic amorphous silica to stored food and instead teaches the application to tape and then use of this tape impregnated with synthetic amorphous silica to control insects. Therefore, Respondent overlooked that D1 fails to disclose

all elements of claimed invention and thus, the latter is novel.

12. It is argued that the Respondent has completely ignored that D2 suggests combination of diatomaceous earth and synthetic amorphous silica, where synthetic amorphous silica is a minor component in the mixture and performs the role of a synergist to diatomaceous earth and does not in any way teach or suggest the use of synthetic amorphous silica alone for controlling insects. The instant invention involves applying silica directly to the stored food at defined concentration and particle size which ensures prolonged insect control. Use of 99% high-purity silica is not disclosed in D2 and moreover, diatomaceous earth is a natural product and is not synthetic amorphous silica nor is it food grade, both features of claim 1 of the instant application. Therefore, a person skilled in the art would not be able to derive the inventive claims of instant application from D2 due to several fundamental differences in focus, physical properties and application.

13. It is argued that D3 and D4 referred to in the impugned order were previously cited as prior arts documents D1 and D2 in the FER, to which an appropriate response was submitted by the Appellant on 30.10.2019. Prior art D3, Golob P. (1997) is a review of the work of McLaughlin i.e., D4 and does not teach or suggest anything with regard to claim 1. Moreover, D4 neither teaches nor even remotely suggests the claimed methods that are limited to use of synthetic amorphous silica with the recited physical characteristics at the recited dosage. D3 or D4 do not provide teachings with regard to modification of formulations therein or using other synthetic amorphous silica compounds with similar physical characteristics to the synthetic amorphous silica claimed in the instant application. As an

example, in terms of most relevant synthetic amorphous silica products described in D4: (a) Aerosil R974 has a smaller average particle size than the synthetic amorphous silica recited in amended claim 1; and (b) Gasil 23D has a larger average particle size (4600nm) than the synthetic amorphous silica recited in amended claim 1.

14. It is argued that Respondent did not consider that D5 describes the use of synthetic amorphous silica known as Sipernat 22 as an insecticide in stored wheat, both alone and in combination, with insecticide impregnated silica dusts (malathion dust and pirimiphos methyl dust). Sipernat 22 has an average particle size of 100,000 nm, which is of a magnitude greater than the one recited in claim 1 of the instant application and furthermore, D5 teaches methods involving the synthetic amorphous silica at a concentration of 1150 mg/kg, which is a much higher dose than recited in claim 1. Hence, several features of method in claim 1 are not taught or suggested by D5. It was pointed out to the Respondent that D5 teaches a mortality rate of less than 80% and 60% for S oryzae at 25^0C and mortality rate of less than 20% and 10% at 15^0C, however, even this crucial difference in the achievable mortality rate in the instant application, was not noted by the Respondent.

15. It is argued that D6 teaches the use of diatomaceous earth with particle sizes ranging from 3µm-1mm, wherein particle size of diatomaceous earth converts to 3000nm-1000,000nm and is thus well outside the average particle size range recited in claim 1 i.e., 100-150nm. Moreover, diatomaceous earth is not a synthetic amorphous silica and is not food grade/98% silica by weight and has no bearing on the inventive step of method of controlling insects defined in claim 1 of the subject application.

16. It is submitted that Respondent did not appreciate that D7 teaches the use of silica gel, including silica particles with a maximum particle size of 50µm and does not teach an effective dosage of 100-250 mg/kg, where physical characteristic and dosage of synthetic amorphous silica are critical to its insecticidal properties. Combination of specific features such as dose of 100-250 mg/kg of synthetic amorphous silica with certain physical characteristic results in extended control of insects in stored food where 100% mortality is maintained for at least 45 days with a dose of 150 mg/kg. The embodiment in D7 teaches spray application of silica gels to a film laid on the ground and insects are killed when they come in contact with silica gel. In contrast, claim 1 of the instant application defines a method that involves applying synthetic amorphous silica to stored food.

17. It is argued that Respondent failed to make claim-wise analysis and/or give any reasoning with regard to lack of inventive step *albeit* Appellant had refuted the prior arts, comprehensively in the written submissions. Moreover, Respondent has failed to follow the five-step test laid down by the Division Bench in ***F. Hoffman-La Roche Ltd. & Anr. v. Cipla Ltd., 2015 SCC OnLine Del 13619*** and has only attempted to follow the exercise by referring to a person skilled in the art. No exercise was carried out to identify the differences, if any, between the claimed invention and the cited prior arts, especially, when Appellant had pointed out so many features in the claimed invention, which the cited prior arts do not teach or suggest.

18. It is argued that Respondent has incorrectly rejected the instant application for non-patentability under Section 3(d) of 1970 Act. The objection under Section 3(d) was initially raised in the FER, to which detailed response was filed by the Appellant. This objection was not

mentioned in the First hearing Notice and it was assumed that the objection was waived being satisfied with the response. However, the objection was again raised in the Second hearing Notice, which is an incorrect procedure to adopt. The objection is qualified by the Respondent as falling in fourth part of Section 3(d) i.e., *'the mere use of a known process unless such known process results in a new product or employs at least one new reactant'*. Respondent merely stated that claims 1-9 are mere use of known processes in cited prior arts D1-D7 without any cogent reasoning to support this. The subject matter of instant application involves a novel component/reactant i.e., a food grade synthetic amorphous silica having an average particle size of 100-150nm, an effective surface area of 185-280m^2/g and at least 98% silica by weight. Since the claimed method involves at least one new reactant/component, it shall fall outside the ambit of Section 3(d). No analysis has been carried out of the claimed subject matter with D1-D7. Respondent has also failed to recognize which part of the claimed method of instant application constitutes a 'known process'. There is no disclosure of the known efficacy or new form of the known substance before rejecting the instant application. It is trite that use of known processes would be considered patentable as long as the known process involves a new reactant. This ground of rejection is also in teeth of Respondent's own acknowledgement of novelty and industrial applicability of claimed invention over prior arts D1-D4.

19. Mr. Sumit Nagpal, learned SPC appearing for the Respondent defends the impugned order and submits that Appellant is unable to demonstrate how principles of natural justice have been violated by the Respondent. Each time a new objection was raised, opportunity was granted to the Appellant to

file written arguments/response to deal with the objections. The argument that Respondent did not consider grant of patent in other jurisdictions cannot be accepted since patent is a territorial right and grant of patent in another jurisdiction cannot bind the Respondent to necessarily grant the patent and each decision is based on its individual facts.

20. It is argued that Appellant has not been able to show the inventive steps taken to develop the method it claims and *sans* the inventive steps, Respondent was justified in refusing the patent application under Section 2(1)(ja) of 1970 Act in light of the combined teachings of cited documents D1-D7. The method of controlling insects in stored food grains comprising the step of applying the stored food within an effective amount of a food-grade synthetic amorphous silica, is a very commonly known method and was widely available and known prior to the instant application. Prior arts D1-D7 collectively disclosed various methods and compositions for controlling insects in stored food using silica-based materials, which includes silica aerogel particles (D1), a mixture of diatomaceous earth and silica (D2), synthetic amorphous silica (D3, D4, D5), silica gel (D7) and traditional uses of silica such as diatomaceous earth (D6).

21. Elaborating the argument, it is submitted that D1 relates to a device for controlling stored-food insects, comprising a substrate selected from the group consisting of paper, burlap, cardboard and porous plastic, a layer of non-drying adhesive attached to said substrate and a deposit of silica aerogel particles atop the adhesive layer, the silica aerogel particles being releasable upon insect contact. D2 relates to insecticidal dust composition consisting of a mixture of about 95% to 65% by weight diatomaceous earth and about 5% to 35% by weight silica, selected from the group consisting of precipitated

silica and aerogel silica. D3 and D4 relate to method of controlling insects in stored food comprising the step of contacting said insects with an effective amount of synthetic amorphous silica, such as food-grade synthetic amorphous silica. D5 recites amorphous silica as an additive to dust formulations of insecticides for stored grain pest control. D6 recites that silica is utilized in the method of food preservation and is traditionally known. Diatomaceous earth is a dust form from fossilized diatoms consisting of entirely amorphous silicon in which the particle size ranges from 3µm to more than 1 mm and is used as a natural insecticides. D7 relates to a method for killing insects by exposing them to an insect-killing effective amount of a biotically toxic composition consisting essentially of a relative humidity controlling effective amount of silica gel having a minimum particle size of 350µm and about 0.05% to about 5% by weight silica particles, having a maximum diameter of about 50µm. It is urged that there is a coherent thread between each of the cited documents for purpose of insects' control in food-grade substance with utilization of silica by application and there being no inventive step, since use of silica for controlling insects in stored food is a knowledge available in the field prior to filing of the patent application, the instant application was rightly refused under Section 2(1)(ja).

22. It is further argued that the subject matter of claims 1-9 is a mere use of known processes over D1-D7 and hence, the claim method was rightly objected to as falling within the purview of fourth part of Section 3(d). Method of controlling insects in stored food (grain) by applying stored food with effective amount of food-grade synthetic amorphous silica is commonly known and present in D1-D7. In fact, utilization of silica for

insect control in grain is a long-standing practice ingrained in traditional agricultural methods and spans generations of farmers. The physical features of silica like particle size, surface area and priority on which much emphasis is laid by the Appellant, are essential for characterizing materials but they do not inherently make a substance novel from a chemical perspective. They make differences with respect to other silica in the physical sense only which cannot be considered as new silica or new reactant *per se*. Further, a reactant is a chemical substance which participates in chemical reactions and forms new substances called products.

23. It is argued that novelty in chemistry refers to new chemical compounds, formulations or processes that have not been previously described or utilized and arises from changes in molecular structure, composition or behaviour that result in distinct chemical properties or reactions and in the context of silica to be considered as novel, it would typically involve chemical modifications, new applications and unprecedented reactivity. Therefore, while physical characteristic like particle size and surface area are crucial for understanding and utilizing materials like silica, they are not sufficient on their own to confer chemical novelty. Thus the silica unitized in the claimed process is not a novel reactant and the processing step of controlling insects in stored food comprising the step of applying to the stored food an effective amount of food-grade synthetic amorphous silica is already known. As such, claims 1-9 are non-patentable under Section 3(d) being mere use of known process, which does not result in a new product and basis the objection under Section 3(d), the application was rightly refused.

24. It is also argued that Respondent dealt with person skilled in the art,

which in the claimed invention would likely to be someone with expertise in the field of agricultural science, specially focused on pest control in stored food products. This individual would possess knowledge and experience in various aspects related to insect management, including the selection and application of insecticides or insect control agents. Given the specific focus on the application of food-grade synthetic amorphous silica for controlling insects in stored food, a person skilled in the art might also have a background in food science or food safety and this expertise would enable him to understand the requirements and regulations surrounding the use of additives in food products, ensuring compliance with safety standards. Therefore, person skilled in the art for claimed invention would likely have interdisciplinary knowledge encompassing agricultural science, food science and material science with specific focus on pest control stored food products. It is thus asserted that all steps required by law were followed before refusing the patent.

25. Heard learned counsels for the parties and examined their submissions.

26. The instant application is a PCT Application bearing No. PCT/AU2015/05110 dated 17.03.2015 taking priority from Australian Application bearing No. 2014900932 dated 18.03.2014. As pointed out by the Appellant, when the FER was issued, the objections raised were lack of novelty under Section 2(1)(j), lack of inventive step under Section 2(1)(ja), non-patentability under Section 3(d), 3(h) and 3(e), prior arts D1-D6. In the First hearing Notice, new prior arts D1-D4 were cited and there was no objection concerning Section 3, however, in the Second hearing Notice, objection was raised under Section 3(p) and indirectly under Section 3(d).

While noting in the FER that instant application had industrial applicability, an objection was raised under Section 2(1)(ac) in the Second hearing Notice. Entirely, new set of prior arts D5-D7 were introduced in the Second hearing Notice. Finally, the patent has been refused under Sections 2(1)(ja) and 3(d).

27. First and foremost, plain reading of the impugned order dated 09.05.2024 shows that Respondent has not followed the five-steps laid down by the Division Bench in ***F. Hoffman-La Roche (supra),*** for determining grant/refusal of the patent. The five steps are extracted hereunder for ready reference:-

> *"Step No. 1 To identify an ordinary person skilled in the art.*
>
> *Step No.2 To identify the inventive concept embodied in the patent.*
>
> *Step No.3 To impute to a normal skilled but unimaginative ordinary person skilled in the art what was common general knowledge in the art at the priority date.*
>
> *Step No.4 To identify the differences, if any, between the matter cited and the alleged invention and ascertain whether the differences are ordinary application of law or involve various different steps requiring multiple, theoretical and practical applications.*
>
> *Step No.5 To decide whether those differences, viewed in the knowledge of alleged invention, constituted steps which would have been obvious to the ordinary person skilled in the art and rule out a hideside approach."*

28. Counsel for the Appellant is right in her submission that though a feeble attempt was made by the Respondent to follow the five-step procedure by identifying the person skilled in the art but further steps were not followed. Respondent has neither carried out claim analysis nor compared the prior arts with the claimed invention to identify the differences, if any, between the cited matter and the claimed invention and thereafter to ascertain whether differences are ordinary application of law or involve various different steps requiring multiple, theoretical and practical

applications and this, in my view, is sufficient to hold that the order is untenable in law. In fact, in ***Tapas Chatterjee v. Assistant Controller of Patents and Designs and Another, 2025 SCC OnLine Del 6369***, Division Bench of this Court has held that the steps envisaged in ***F. Hoffman-La Roche (supra)*** are not only required to be followed but must be followed sequentially while examining the aspect of obviousness and existence of inventive step.

29. Appellant is right that in the comprehensive responses to the objections, Appellant had meticulously brought forth the differences between cited prior arts D1-D7 and the claims in the instant application, however, Respondent has not analysed the same. The methodology followed by the Respondent, as reflected from the impugned order, is that references have been made to the cited prior arts and their teachings/suggestions but there is no independent analysis and consequently, there is no reasoning why the claimed invention is not inventive. The common thread that runs in the entire order is a singular observation and understanding of the Respondent that application of silica based materials for insect control in stored food is common and known to those skilled in the art and claimed invention does not demonstrate any unexpected or non-obvious advantages over the prior arts so as to qualify as an invention under Section 2(1)(ja).

30. It was brought forth before the Respondent how as per the inventor, D1-D7 did not teach or suggest and/or had any bearing on the inventive step of the method defined in claim 1 of the subject application. These differences have been brought forth in the earlier part of this judgment and are not being repeated for the sake of brevity. However, none of these differences have been adverted to or dealt with by the Respondent.

Impugned order does not even discuss as to in what way the claimed invention would be obvious to the person skilled in the art and/or how he would be able to anticipate the claimed invention. It is trite that person skilled in the art must anticipate the invention on the basis of prior arts and further predict with a reasonable expectation of success, the solution of the underlying technical problem of the invention. For assessment of inventive step of invention, it must be observed and determined whether the skilled person could have arrived at the invention by combining the prior arts or whether he would have done so because the prior art provided motivation to do so with a reasonable expectation to solve the technical problem.

31. Appellant has brought out that the technical problem which the claimed invention sought to address was that whilst there are various insecticides available, many are not suitable for widespread application due to toxicity and many insecticides tend to be active against a relatively narrow range of targets and only function optimally under very specific conditions such as moisture, humidity and temperature. This apart, there is an ever-increasing problem of insecticide resistance. It was also brought out that stored food such as grain and rice are particularly susceptible to insect infestations and many solid formulation insecticides such as diatomaceous earth are less than ideal because they need to be applied in relatively high doses and the food requires treatment to remove the insecticides before it is safe for consumption. The claimed invention provides a food comprising and effective amount of synthetic amorphous silica, which is 'food-grade' since it is suitable for consumption without undue and adverse effects and meets at least one of the many food-grade certifications. Many more features of the claimed invention were also brought out in the response to the

objections by the Appellant but these have either not been dealt with or there is no analysis or reasoning to conclude otherwise. Respondent has also erred in not correctly considering a very vital and crucial feature of claimed invention that results in extended control of insects in stored food, whereby 100% mortality is maintained for at least 45 days with a dose of 150 mg/kg and has simply brushed aside the point by observing that a person skilled in the art would reasonably expect to achieve this end by applying sufficient dose of an insecticide and consequently holding that there was no technical advancement. As rightly flagged by counsel for the Appellant, there is no analysis/reasoning in the order which would show scientifically that the physical characteristic and dosage of synthetic amorphous silica leading to 100% mortality rate for 45 days was equivalent to using a higher dose of silica.

32. The same position obtains with respect to objection under Section 3(d). Appellant pointed out that D1-D7 do not teach, suggest or motivate person skilled in the art to arrive at the subject matter of the instant application. It was pointed out to the Respondent that since the claimed method involved a novel component/reactant i.e., a food-grade synthetic amorphous silica with average particle size of 100-150nm, an effective surface area of 185-280m^2/g and at least 98% silica by weight, Section 3(d) would not be applicable. Strangely, even this issue has been dealt with by the same observation as in the context of objection under Section 2(1)(ja) by stating that role of silica is widely known in insect/pest control and is disclosed in the prior arts D2 and D7 and that physical features of silica such as particle size etc., are essential for characterizing materials but do not inherently make a substance novel. Respondent has stated in the impugned

order that subject matter of claims 1-9 is a mere use of known processes over D1-D7, but there is no mention of how and which part of the claims qualifies as a known process. The order also does not indicate the known efficacy or new form of the known substance in arriving at the conclusion of non-patentability or under Section 3(d).

33. Appellant had also drawn the attention of the Respondent to the fact that corresponding applications in foreign jurisdictions in respect of similar claims have been granted in Europe, Canada, Australia, Brazil and Indonesia, however, no attention has been paid to this aspect. It is no doubt true that mere grant of patents in other jurisdictions cannot be a decisive factor for grant of similar patent by the Respondent and the Controller has the discretion to analyze the patent application on its own facts, however, it is equally settled that the fact that the inventive step involved in the instant application has been acknowledged in several other jurisdictions, is a persuasive fact and due credence ought to have been given by the Respondent, as there is no gainsaying that the patents were granted after having overcome the objection of novelty and obviousness and this becomes important owing to the fact that even in the present case, Respondent acknowledged the industrial applicability of the claimed invention as also its novelty.

34. The impugned order certainly lacks reasoning and clarity in examination and fails to notice several distinctions brought forth by the Appellant between the claimed invention and cited prior arts, which this Court is able to assess even on a superficial comparison. Most importantly, despite repeated and consistent observation by this Court, the five steps laid down in ***F. Hoffman-La Roche (supra)*** have not been followed. As noted

above, there is no independent examination and determination on the issue of applicability of Section 3(d) *per se* by adverting to and identifying the 'known process' and/or disclosing the known efficacy or the new form of the known substance before refusing the application under Section 3(d), considering that Section 3(d) will apply only where the process forming the subject matter of the claimed invention is a known process.

35. For all the aforesaid reasons, I am inclined to remand the matter to the Respondent for a fresh consideration. Accordingly, impugned order dated 09.05.2024 is quashed and set aside. Matter is remanded back to the Respondent for reconsideration and fresh determination of Indian Patent Application bearing No. 201617030967. The consideration will be restricted to the objections under Section 2(1)(ja) and Section 3(d) of 1970 Act in respect of claims 1-9, based on prior art documents D1-D7 as enlisted in Second hearing Notice dated 29.02.2024. While carrying out *de novo* consideration, the Respondent shall follow the tests and principles laid down in ***F. Hoffman-La Roche (supra)***. Opportunity of hearing will be granted to the Appellant after intimating the date of hearing, whereafter a reasoned and speaking order shall be passed on the basis of material already on record and no new evidence will be permitted, save and except, judicial precedents, if any. Fresh order will be passed by the Respondent within two months from today.

36. Appeal is partially allowed and disposed of in the aforesaid terms.

JYOTI SINGH, J

FEBRUARY 23, 2026
S.Sharma