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**Datasheet for the decision of 3 March 2022**

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| **Case Number:** | T 1756/17 - 3.3.10 |
| **Application Number:** | 06818829.1 |
| **Publication Number:** | 1959914 |
| **IPC:** | A61K8/11, A61K8/29, A61K8/02, A61K8/25, A61K8/35, A61K8/891, A61K8/36, A61Q17/04, A61K8/40, A61K8/31, A61Q19/00, A61K8/34 |
| **Language of the proceedings:** | EN |

**Title of invention:**

COSMETIC OR DERMATOLOGICAL COMPOSITIONS COMPRISING MODIFIED TITANIUM DIOXIDE PARTICLES

**Patent Proprietor:**

DSM IP Assets B.V.

**Opponents:**

Huntsman P&A Germany GmbH
Merck Patent GmbH

**Headword:**

**Relevant legal provisions:**

EPC Art. 56
RPBA Art. 12(4)

**Keyword:**
Inventive step - (no)

**Decisions cited:**

**Catchword:**

Europäisches Patentamt
European Patent Office
Office européen des brevets

**Beschwerdekammern**

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**Case Number: T 1756/17 - 3.3.10**

# D E C I S I O N
# of Technical Board of Appeal 3.3.10
# of 3 March 2022

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|---|---|
| **Appellant:** (Opponent 2) | Merck Patent GmbH<br>Frankfurter Strasse 250<br>64293 Darmstadt (DE) |
| **Representative:** | dompatent von Kreisler Selting Werner -<br>Partnerschaft von Patent- und Rechtsanwälten mbB<br>Deichmannhaus am Dom<br>Bahnhofsvorplatz 1<br>50667 Köln (DE) |
| **Respondent:** (Patent Proprietor) | DSM IP Assets B.V.<br>Het Overloon 1<br>6411 TE Heerlen (NL) |
| **Representative:** | Lederer & Keller Patentanwälte<br>Partnerschaft mbB<br>Unsöldstraße 2<br>80538 München (DE) |
| **Party as of right:** (Opponent 1) | Huntsman P&A Germany GmbH<br>Dr.-Rudolf-Sachtleben-Strasse 4<br>47198 Duisburg (DE) |
| **Representative:** | Nobbe, Matthias<br>Demski & Nobbe<br>Patentanwälte<br>Mülheimer Strasse 210<br>47057 Duisburg (DE) |
| **Decision under appeal:** | **Interlocutory decision of the Opposition Division of the European Patent Office posted on 8 June 2017 concerning maintenance of the European Patent No. 1959914 in amended form.** |

**Composition of the Board:**

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| **Chair** | P. Gryczka |
| **Members:** | R. Pérez Carlón |
| | E. Mille |

## Summary of Facts and Submissions

I. The appellant (opponent 2) lodged an appeal against the interlocutory decision of the opposition division maintaining European patent No. 1 959 914 in the form of the first auxiliary request then pending.

II. Two notices of opposition had been filed on grounds including lack of inventive step (Article 100(a) EPC). One of the oppositions was withdrawn.

III. The appellant filed, *inter alia*, the following document:

D3 WO 02/22098

The experimental test reports filed by the parties include the following:

D6 SPF Photostability tests filed by the former opponent by letter dated 21 February 2015

D14 Experimentelle Daten, filed by the appellant by letter dated 20 February 2015

D16 Comparative trial filed by the respondent (patent proprietor), dated 11 December 2015

D17 Experimentelle Daten filed by the appellant, dated 27 January 2017

D21 Experimentelle Daten filed by the appellant with the statement of grounds of appeal, dated 18 October 2017

D28 Analysis of the data provided as D21 by Ms Schoop filed by the respondent, dated 8 March 2018

D29 Response to D29 by Dr Pflücker filed by the appellant, dated 15 June 2018

D32 Stellungnahme zu Dokument D29 by Dr Schoop filed by the respondent, dated 6 February 2019

IV. With the statement setting out the grounds of appeal, the respondent (patent proprietor) filed as its main request the request found allowable by the opposition division and the first to the fourth auxiliary requests. The fifth to the eighth auxiliary requests were filed under cover of a letter dated 4 December 2019.

V. Claim 1 of the main request and the first auxiliary request reads as follows:

*"Cosmetic or dermatological compositions comprising multiply coated titanium dioxide particles, said particles having at least one inner inorganic silica coating and one outer organic coating and a water content of less than 1.5%."*

Claim 1 of auxiliary request 2 further requires the outer organic coating to be dimethicone.

Claim 1 of auxiliary request 3 requires the outer coating to be dimethicone and the composition to be in the form of an emulsion or microemulsion of the O/W-, W/O-, O/W/O- or W/O/W-type.

Claim 1 of auxiliary request 4 requires the outer organic coating to be dimethicone and the claimed

composition to contain a photostabiliser selected from polysilicone-15, octocrylene, 4-methylbenzylidene camphor or a mixture of these.

Claim 1 of auxiliary requests 5 to 8 relate to the use of the particles required respectively by claim 1 of auxiliary requests 1 to 4 in cosmetic or dermatological compositions.

VI. On the issue of inventive step, the opposition division concluded that document D3 was the closest prior art. The claimed compositions differed from that of D3 by the amount of water of the particles. In view of the contradictory evidence on file, the problem of providing an improved cosmetic or dermatological composition could not be considered as credibly solved and was reformulated as to provide alternative multiply coated titanium dioxide particles. The claimed solution, characterised by the required relative amount of water, would not have been obvious for the skilled person and was thus inventive.

VII. The arguments of the appellant were as follows.

If the claimed compositions were novel over those of D3, it would only be by virtue of the water content of the particles required by claim 1. This feature was not linked to any improvement, as shown by the experimental results set out in D17 and D21. The sole technical problem which could be considered credibly solved was to provide cosmetic compositions alternative to those of D3. The claimed solution, characterised by the water content of the particles in the composition, would have been obvious to the skilled person in view of D3 and was for this reason not inventive. The conclusion did not vary with respect to the subject-matter of claim 1

of the auxiliary requests.

VIII. The arguments of the respondent were as follows.

Document D3 was the closest prior art. It did not disclose a composition having particles with the required water content. The problem underlying the claimed invention was to provide cosmetic compositions with an enhanced sun protection factor (SPF) and better stabilisation of Butyl Methoxydibenzoylmethane. The problem was credibly solved as shown in the experimental report D16. The test carried out by the appellant in D21 could not show that the problem had not been solved as the results obtained were statistically relevant. The claimed solution would not have been obvious for a skilled person and was thus inventive. The arguments applied also to the subject-matter of claim 1 of all the requests on file.

IX. Oral proceedings before the board took place on 3 March 2022.

X. The final requests of the parties were as follows.

The appellant requested that the decision under appeal be set aside and the patent revoked.

The respondent requested that the appeal be dismissed (main request) or, alternatively, that the patent be maintained on the basis of one of the first to fourth auxiliary requests, filed with the response to the grounds of appeal dated 13 March 2018, or on the basis of the fifth to eighth auxiliary requests, filed with a letter dated 4 December 2019.

XI. At the end of the oral proceedings, the decision was announced.

## Reasons for the Decision

1. The appeal is admissible.

Inventive step

2. Claim 1 of the main request relates to cosmetic or dermatological compositions comprising multiply coated titanium dioxide particles. One inner coating is made of inorganic silica. The outer coating is organic. The particles have a water content of less than 1.5%.

3. Closest prior art

The parties were divided as to whether the claimed invention was novel. The parties agreed, however, that if the claimed invention were novel, document D3 was the closest prior art. This was also the opposition division's conclusion.

It was also undisputed that if the claimed compositions were over those of D3, it would be only by virtue of the relative amount of water required by claim 1.

Inventive step is examined on this basis.

4. Technical problem underlying the invention

The respondent defined the technical problem underlying the claimed invention as to provide cosmetic and dermatological compositions having an enhanced sun protection factor (SPF) and an enhanced stabilising

effect on Butyl Methoxydibenzoylmethane.

5. Solution

According to the respondent, this problem was solved by the claimed compositions comprising particles characterised by a water content of less than 1.5%.

6. Success

6.1 The patent itself does not contain data which could show an effect derived from the water content of the particles. However, experimental evidence was filed in this respect as D6, D14, D16, D17 and D21.

6.2 Experimental evidence D6 and D14 were filed by the appellant and by the former opponent. They aimed to show that compositions having particles with the required water content did not solve the problem formulated by the respondent.

D6 and D14 are arguably relevant for the compositions of claim 1 of the main request and auxiliary request five. They are, however, not relevant for the compositions of claim 1 of auxiliary requests two to four and six to eight, which require a dimethicone coating.

The board's conclusion on inventive step is negative relying only on D16, D17 and D21 and considering the most preferred outer coating, dimethicone. It is thus not necessary to examine D6 and D14 or other embodiments of claim 1.

6.3 Before turning to the experimental data, the board notes the following.

The parties were divided on whether the feature of claim 1 "a water content of less than 1.5%" required the particles to have a low water content not only prior to the formulation into the claimed composition, but also once formulated into it.

However, both parties provided experimental data based on the water content of the particles prior to formulation (D17, D21) or even before applying the outer coating (D16). The water level of the particles once introduced in the composition was not measured or considered relevant to the experimental evidence by any of the parties.

Both parties thus saw as embodiments of claim 1 compositions obtained from particles with less than 1.5% water, regardless of particle moisture once formulated into the composition. The board will also follow this approach.

6.4 D16

Experimental evidence D16 was filed by the respondent/ patent proprietor before the opposition division. It compares two types of particles. Both are titanium dioxide particles coated with silica and dimethicone. Those of Sample A have 1% water and are thus as required by claim 1. The particles of Sample B contain 4% water, outside the boundary set by claim 1.

The particles of Samples A and B were formulated as oil-in-water emulsions (Table 1). A composition having particles of Sample A showed a higher SPF (Table 1) and stabilised Butyl Methoxydibenzoylmethane more efficiently than a composition with particles of

Sample B (Table 2).

6.5 D17

Experimental evidence D17 was filed by the opponent/ appellant before the opposition division. It measures SPF and the stabilisation of Butyl Methoxydibenzoylmethane of compositions having particles made of titanium oxide coated with silica and dimethicone, which contained 0.5% or 2.1% water.

No difference in SPF was observed. The stabilisation of Butyl Methoxydibenzoylmethane in a composition according to claim 1 was worse than that obtained in a composition having particles with more water, i.e. outside the limits imposed by claim 1.

6.6 D21

Experimental evidence D21 was filed with the statement of grounds of appeal.

At the beginning of the oral proceedings before the board, the respondent requested that D21 not be admitted into the proceedings. However, the respondent itself relied on D21 during the oral proceedings in support of its case. Under these circumstances, the board saw no reason not to admit D21 into the proceedings. As a consequence, documents D28 and D32, filed by the respondent as a reaction to D21, are also admitted into the proceedings.

In the experimental report D21, compositions containing commercial particles named Parsol TX, having an inner titanium oxide core, an intermediate silica layer, a dimethicone coating and 0.9% water (Zubereitung A) were

tested. By adding water, particles having 3.0%, 4.8% and 9.8% water were obtained. These particles were also formulated into cosmetic compositions (Zubereitungen B to D).

6.6.1 The respondent argued, with reference to D28 and D32, that the values obtained in D21 were nevertheless statistically significant, in particular with respect to SPF. Thus, it could not be concluded that no effect was achieved.

6.7 Even if the board accepts the respondent's argument with respect to D21, it faces contradictory experimental evidence. Although D16 and D21, to the benefit of the respondent, show an improvement for compositions containing specific particles, D17 show that this effect is not achieved by other embodiments of claim 1.

It is thus not credible that the problem as defined above in point 4. is solved by the compositions of claim 1.

7. Reformulation of the technical problem

As the alleged improvement in terms of a higher SPF and better stabilisation of Butyl Methoxydibenzoylmethane is not achieved by every composition of claim 1, the technical problem needs to be reformulated. The problem underlying the claimed invention, in view of D3, is thus to provide cosmetic or dermatological compositions alternative to those of D3.

It is not disputed that this technical problem has been credibly solved by the compositions of claim 1, having

particles with a water content of less than 1.5%.

8. It thus remains to be decided whether the proposed solution to the objective problem defined above would have been obvious for the skilled person in view of the prior art.

According to document D3, the water content of the particles can be reduced by drying (page 26, line 24 to page 27, line 2). The skilled person, seeking an alternative, would thus have dried the particles used in D3. No special effect has been shown for the moisture threshold set by claim 1. Therefore, when solving the problem of providing an alternative composition, the skilled person would have considered drying the particles below that moisture threshold of less than 1.5% and would thus have arrived at the claimed invention without inventive activity.

The compositions of claim 1 of the main request are thus not inventive (Article 56 EPC), and the main request is therefore not allowable.

9. Auxiliary requests

9.1 Claim 1 of the first auxiliary request is identical to claim 1 of the main request. The arguments above thus also apply.

9.2 Claim 1 of auxiliary request 2 requires the outer coating layer of the particles to be dimethicone. Since the particles of D3 are coated with dimethicone, the arguments given with respect to the main request also apply.

9.3 Claim 1 of auxiliary request 3 requires the composition to be in the form of an emulsion or microemulsion of the O/W-, W/O-, O/W/O- or W/O/W-type. These are common types of cosmetic compositions disclosed in the closest prior art (see, for example, D3, page 44, lines 4-8). Therefore, the issue of inventive step does not change with respect to claim 1 of the main request.

9.4 Claim 1 of auxiliary request 4 requires the composition to contain a photostabiliser selected from polysilicone-15, octocrylene or 4-methylbenzylidene camphor. It was acknowledged by the respondent that these components were usual in the art and that the issue of inventive step would not change with respect to that of claim 1 of the main request.

9.5 Claim 1 of auxiliary requests 5 to 8 relate to the use of the particles as defined in claim 1 of auxiliary requests 1 to 4 in cosmetic or dermatological compositions. It was also undisputed that the issue of inventive step did not differ from that put forward above in the context of the main request.

10. As the subject-matter of claim 1 of all requests on file does not involve an inventive step (Article 56 EPC), none of the requests is allowable.

Having regard to the board's negative conclusion on inventive step, no other contentious point needs to be examined.

**Order**

**For these reasons it is decided that:**

The decision under appeal is set aside.

The patent is revoked.

The Registrar: The Chair:

C. Rodríguez Rodríguez P. Gryczka

Decision electronically authenticated