



(43) International Publication Date
13 December 2012 (13.12.2012)

WIPO | PCT

(10) International Publication Number
WO 2012/167786 A1

(51) International Patent Classification:

C09D 5/06 (2006.01) *C09D 193/00* (2006.01)
C09D 191/00 (2006.01)

(21) International Application Number:

PCT/DK2011/000058

(22) International Filing Date:

9 June 2011 (09.06.2011)

(25) Filing Language:

English

(26) Publication Language:

English

(71) Applicant (for all designated States except US):
CHRISTINA COLOR DENMARK ApS [DK/DK]; c/o
Christina Christensen, Gl. Hadsundvej 12 B 1. 1., DK-
8900 Randers (DK).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **CHRISTENSEN,
Christina Haack** [DK/DK]; Gl. Hadsundvej 12 B 1. 1.,
DK-8900 Randers (DK).

(74) Agent: **PATENTGRUPPEN A/S**; Aaboulevarden 31,
DK-8000 Aarhus C (DK).

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ,
CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO,
DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN,
HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR,
KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME,
MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ,
OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG,
SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ,
UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LR, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG,
ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ,
TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK,
EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV,
MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM,
TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW,
ML, MR, NE, SN, TD, TG).

Published:

— with international search report (Art. 21(3))

(54) Title: AN OIL BASE FOR OIL PAINTS

(57) Abstract: The present invention relates to a method for the manufacture of an oil base for artistic oil paints, wherein the method involves the steps: i) providing an amount of stand oil; ii) providing an amount of naturally occurring resins, said resins comprise at least 10 wt% of sandarac resin, mastic resin or a mixture thereof, based on the total amount of naturally occurring resins; iii) providing an amount of naturally occurring waxes, said naturally occurring waxes comprise at least 10 wt% of beeswax based on the total amount of naturally occurring waxes; iv) mixing said amount of stand oil provided in step i) with said amount of naturally occurring resins provided in step ii) and said amount of naturally occurring waxes provided in step iii); v) carefully stirring the mixture obtained in step iv) at a temperature which enables obtaining a homogeneous mixture; vi) optionally cooling the homogeneous mixture obtained in the previous step to room temperature; vii) subjecting the mixture obtained in the previous step for a steam blowing process by blowing steam into said mixture for a period of time sufficient for obtaining a hazy appearance of said mixture; said steam blowing process being preferably performed under agitation. The invention furthermore relates to such an oil base per se as well as uses thereof.



WO 2012/167786 A1

An oil base for oil paints**Field of the invention**

The present invention relates to the field of artistic oil paints and oil bases for artistic
5 oil paints. More specifically, the present invention relates to a method for the
manufacture of an oil base for artistic oil paints, such an oil base per se as well as
uses thereof.

Background art

10 Art painting has been an activity occupying people for centuries and over the years a
variety of specialised painting techniques each involving a specific type of paints
have been developed.

Historically, it is believed that the technique of painting using oil paints had its
15 breakthrough in the 15th century, where Jan van Eyck began using paints solely based
on drying oils and pulverized pigments suspended therein.

In order for oil paints to dry the oils used for the paint must have sufficient amount of
triglycerides having a sufficient number of double bonds.

20

The drying of an oil paint involves formation of cross linking of the carbon chains of
the triglycerides of the oil used by oxidation of the double bonds of the oil's fatty
acids. For this reason, in order to ensure that the oil paint is capable of drying and
capable of drying within a not too long period of time, the carbon chains of the
25 triglycerides of the oil used must comprise a sufficient number of double bonds
enabling such cross linking. The drying process involving the cross linking is
effected by oxidation of the double bonds by the air's oxygen.

Traditionally, the oil used for oil paints is linseed oil which has been heated to about
30 300 °C for a few days in the complete absence of air. The resulting oil is called
stand oil. The stand oil has a sufficient amount of double bonds in the carbon chains

CONFIRMATION COPY

of its fatty acid esters that allows the oil and hence also the corresponding paint made therewith to dry and harden upon exposure to air

Artistic painting using oil paints based on stand oil has been and still is believed by many artists to be the most genuine type of art painting. The reason for this is partly due to the long tradition of using such types of art paint.

However also the fact that oil paints have a propensity to blend into surrounding paint allowing very subtle blending of colours and thereby producing vivid colours with a natural sheen and distinct contrast makes oil paint based on stand oil the preferred technique to use by many artists.

The above advantages are especially beneficial in the case of painting portraits where oil paints are capable of expressing a surface translucency similar to human skin.

Although oil paints indeed is capable of drying by exposure to air, the drying process is rather slow and when the drying is effected solely by exposure of the paint to the air's oxygen, the paint may take weeks to dry.

For this reason, artists using oil paints based on stand oil usually add one or more drying agents to the paints when mixing the colours on the palette. The drying agent(s) added will considerably speed up the drying process.

Examples of drying agents traditionally added to the paints prior to application to the canvas are derived from cobalt, manganese, lead, zirconium, zinc, calcium and iron in the form of coordination complexes. These complexes are typically suspended in a volatile organic medium, such as turpentine or xylol.

Examples of types of drying agents are siccative and liquin.

It is clear that the necessity of adding volatile organic solvents to the drying agents poses a health risk for the painting artist. This health risk is related to the exposure of vapours of the organic solvents which may very well enter the human respiratory system and hence damage the human body.

5

Also, the presence of vapors of organic solvents originating from the drying agents in the artist's studio also represents a dangerous fire hazard.

10 In addition to the health risks and hazard associated with the organic solvents of the drying agents, also the metals and the coordination complexes present in such drying agents may pose a health risk in its own right.

15 In modern art painting the use of acrylic paints has become very popular since its introduction in the 1950's. Acrylic paints are based on coloured pigments or dyes suspended in an acrylic polymer suspension, optionally also comprising water. Unlike oil paints, acrylic paints are fast drying and does not necessitate the use of drying agents comprising organic solvents.

20 Accordingly, although a number of advantages exist in respect of acrylic paints, compared to oil based paints, especially in respect of health concerns, these advantages comes at an artistic price, because the acrylic paints do not allow for providing the same artistic visual effects as oil based paints do.

25 It is the object of the present invention to overcome the disadvantages of long drying times and health risk associated with the prior art oil based paints by providing a new type of oil based paints and a new technique for application on a canvas of these new types of oil based paints, where the use of drying agents comprising hazardous volatile organic solvents can be completely avoided.

30

Brief description of the invention

The above-identified disadvantages of the prior art oil paint systems have been overcome with the provision of an oil base which according to a first aspect of the present invention is manufactured by a process comprising the steps:

5

i) providing an amount of stand oil;

ii) providing an amount of naturally occurring resins, said resins comprise at least 10 wt% of sandarac resin, mastic resin or a mixture thereof, based on the total amount of
10 naturally occurring resins;

iii) providing an amount of naturally occurring waxes, said naturally occurring waxes comprise at least 10 wt% of beeswax based on the total amount of naturally occurring waxes;
15

iv) mixing said amount of stand oil provided in step i) with said amount of naturally occurring resins provided in step ii) and said amount of naturally occurring waxes provided in step iii);

20 v) carefully stirring the mixture obtained in step iv) at a temperature which enables obtaining a homogeneous mixture;

vi) optionally cooling the homogeneous mixture obtained in the previous step to room temperature;

25

vii) subjecting the mixture obtained in the previous step for a steam blowing process by blowing steam into said mixture for a period of time sufficient for obtaining a hazy appearance of said mixture; said steam blowing process preferably being performed under agitation.

30

In a second aspect the present invention relates an oil base obtainable according to the process of the first aspect of the present invention.

In a third aspect the present invention relates to the use of an oil base according to
5 the second aspect of the present invention for artistic oil painting.

In a fourth aspect the present invention relates to a canvas for artistic oil painting wherein said canvas comprises an application of the oil base according to the second aspect of the present invention.

10

Finally, in a fifth aspect the present invention relates to a paint for artistic oil painting comprising an oil base according the second aspect of the present invention and one or more colouring agents.

15 The oil base of the second aspect of the present invention is in itself a whitish, partly transparent cream-like composition.

The oil base of the second aspect of the present invention is 100% non-toxic and its production and uses is environmentally friendly and can be used with any given
20 additive such as a colouring agent as disclosed in a later paragraph.

The oil base of the second aspect of the present invention has great advantages in uses in artistic oil painting because the health risks traditionally associated with the necessary use of drying agents can be completely eliminated as disclosed in later
25 paragraphs.

In fact, the oil base itself according to the second aspect of the present invention is environmentally friendly and comprises no poisonous ingredients. The oil base virtually has no smell and it is completely miscible with additives traditionally and/or
30 conventionally used in artistic painting, such as matting or glossing additives or the like.

The oil base of the second aspect of the present invention is a partly transparent paste-like cream. The oil base can be manufactured in a way that makes it very viscous and dense. This has the advantage that in case the oil base is used for an oil paint, an artist upon use of the oil paint for an artistic painting can use that oil paint as is and smear it onto the canvas if he wished thick layers of paint. Alternatively, he can choose to blend in an amount of oil, such as bleached linseed oil, or even water in case the artist wishes to perform thin silk-like layers onto the canvas.

The oil base and the oil paints manufactured thereof additionally accordingly exhibits a modelling effect that allows an artist to shape the oil base or the paint applied to the canvas in a desired shape and the oil base or the oil paint will retain its shape and dry while maintaining the shape. These properties are highly desirable because it gives the artist great flexibility in adjusting the visual depth of each stroke performed with the brush. The drying itself will occur without any running of the oil base or paint and without any oozing of oily constituents from the oil base or from the paint.

Furthermore, the oil base and the oil paints made therefrom do not make colours flow or drip when blending with similar paints of different colours.

All in all the oil base according to the second aspect of the present invention and the oil paints made therefrom according to a fifth aspect represents a high degree of flexibility for an artist making an oil painting without the known hazards relating to volatile organic solvents involved in traditional and conventional oil painting.

25 Detailed description of the invention

The method for the preparation of an oil base according to the first aspect of the present invention

As mentioned above, in a first aspect the present invention relates to a method for the manufacture of an oil base for use in artistic oil painting, said method comprising the steps:

i) providing an amount of stand oil;

ii) providing an amount of naturally occurring resins, said resins comprise at least 10 wt% of sandarac resin, mastic resin or a mixture thereof, based on the total amount of naturally occurring resins;

iii) providing an amount of naturally occurring waxes, said naturally occurring waxes comprise at least 10 wt% of beeswax based on the total amount of naturally occurring waxes;

10

iv) mixing said amount of stand oil provided in step i) with said amount of naturally occurring resins provided in step ii) and said amount of naturally occurring waxes provided in step iii);

15 v) carefully stirring the mixture obtained in step iv) at a temperature which enables obtaining a homogeneous mixture;

vi) optionally cooling the homogeneous mixture obtained in the previous step to room temperature;

20

vii) subjecting the mixture obtained in the previous step for a steam blowing process by blowing steam into said mixture for a period of time sufficient for obtaining a hazy appearance of said mixture; said steam blowing process preferably being performed under agitation.

25

The oil base so obtained is beneficial in its various uses in art painting because the desired visual effects of traditional oil painting paints can be attained with the oil base obtained according to the first aspect of the present invention without the detrimental effect of the necessity of using volatile organic drying agents and/or turpentine in order to speed up the drying process of the oil paint.

30

In step i), ii) and iii) of the method of the first aspect of the present invention the starting constituents are provided.

5 In one embodiment of the first aspect of the present invention the amount of stand oil is 9 – 99 wt% based on the combined amount of said stand oil, said naturally occurring resins, and said naturally occurring waxes mixed in step iv) of said method.

10 In one embodiment of the first aspect of the present invention said amount of stand oil is 10 - 95 wt%, such as 15 – 90 wt%, e.g. 20 – 85 wt%, such as 25 – 80 wt%, for example 30 – 75 wt%, such as 35 – 70 wt%, e.g. 40 – 65 wt%, such as 45 – 60 wt% or 50 - 55 wt% based on the combined amount of said stand oil, said naturally occurring resins, and said naturally occurring waxes mixed in step iv) of said method.

15 Stand oil originates from linseed oil and is generated by heating linseed oil near 300°C for a few days in the complete absence of air. Under these conditions, a crosslinking of the polyunsaturated fatty ester residues takes place. Stand oil is readily commercially available.

20 In one embodiment of the first aspect of the present invention the amount of the naturally occurring resins is 0.02 - 85 wt% based on the combined amount of said stand oil, said naturally occurring resins, and said naturally occurring waxes mixed in step iv) of said method.

25 In one embodiment of the first aspect of the present invention said amount of the naturally occurring resins is 0.5 - 80 wt%, such as 1 – 75, for example 5 – 70 wt%, such as 10 – 65 wt%, such as 15 – 60 wt%, for example 20 – 55 wt%, e.g. 25 – 50 wt%, such as 30 – 45 wt% or 35 - 40 wt%, based on the combined amount of said stand oil, said naturally occurring resins, and said naturally occurring waxes mixed in
30 step iv) of said method.

In one embodiment of the first aspect of the present invention the amount of the naturally occurring waxes is 0.3 - 78 wt% based on the combined amount of said stand oil, said naturally occurring resins, and said naturally occurring waxes mixed in step iv) of said method.

5

In one embodiment of the first aspect of the present invention said amount of the naturally occurring waxes is 0.5 - 75 wt%, such as 0.7 - 70, such as 1 - 65, for example 5 - 60, such as 10 - 55, for example 15 - 50, such as 20 - 45, such as 25 - 40 or 30 - 35, based on the combined amount of said stand oil, said naturally occurring resins, and said naturally occurring waxes mixed in step iv) of said method.

10

The above stated ranges of the said stand oil, said naturally occurring resins, and said naturally occurring waxes have proven to be beneficial in relation to obtaining an oil base having the desired properties in relation to the uses in artistic oil painting as explained in the later sections of this application.

15

In one embodiment of the first aspect of the present invention said naturally occurring resins provided in step ii) are selected from the group comprising: sandarac, mastic, dammar, shellac, colophonium, xanthorrhoea resins.

20

In one embodiment of the first aspect of the present invention the naturally occurring waxes provided in step iii) are selected from the group comprising: beeswax, canauba wax, candelilla wax.

25

These types of naturally occurring resins and naturally occurring waxes have proven beneficial in balancing the quality of the product obtained and the production cost in respect of manufacturing the product. Other types of waxes and resins may be used as well as long as the amount of sandarac resin and beeswax, respectively as stated in step ii) and iii) respectively of the above definition of the method are complied with.

30

In step iv) and v) of the method according to the first aspect of the present invention the constituents provided in step i), ii) and ii) are mixed and stirred.

It is preferred that the temperature of the mixture in step v) is 25 – 90 °C, such as 30 – 85 °C, e.g. 35 – 80 °C, such as 40 – 75 °C, for example 45 – 70 °C, e.g. 50 – 65 °C, such as 55 – 60 °C.

Such temperatures ensure a fast and thorough blending of the constituents making up the final oil base.

10

It is preferred that the step v) of the method of the first aspect according to the present invention is performed essentially without aerating said mixture.

The reason for this is that if the mixture is aerated, the resulting product may become hazy and filled with air bubbles or air pockets. Such air bubbles or air pockets in the oil base may pose disadvantages for the user when using the product due to its inhomogeneous nature.

In one embodiment of the first aspect of the present invention step v) is performed for a period of time of 5 sec. to 190 sec., such as 10 – 180 sec., for example 20 – 170 sec., such as 30 – 160 sec., e.g. 40 – 150 sec., such as 50 – 140 sec., for example 60 – 130 sec., e.g. 70 – 120 sec., such as 80 – 110 sec. or 90 – 100 sec.

In one embodiment of the method according to the first aspect of the present invention the naturally occurring resin(s) prior to blending with the stand oil and the naturally occurring wax(es) is/are dissolved or suspended in an amount of linseed oil varnish.

In this embodiment the amount of linseed oil varnish dissolving or suspending the naturally occurring resin(s) is 0.1 – 10 wt% of the amount of the naturally occurring

resin(s), such as 0.2 – 8 wt%, e.g. 0.5 – 7 wt%, such as 1 – 6 wt%, e.g. 2 – 5 wt%, such as 3 – 4 wt% of the amount of the naturally occurring resin(s).

Hence, it is preferred that the natural occurring resins are first mixed with stand oil
5 comprising an amount of linseed oil varnish, optionally by heating, for facilitating dissolution or suspension thereof.

The prior dissolving or suspension of the naturally occurring resin(s) in linseed oil varnish and optionally also stand oil has been found to improve and facilitate the
10 obtaining of a homogeneous mixture of the stand oil and the naturally occurring resin(s) and the naturally occurring wax(es).

In one embodiment of the first aspect of the present invention the process prior to step vi) comprises the step of heating the mixture to a temperature of 60 – 90 °C,
15 whereafter one or more metals are added and subsequently stirred in carefully, said metal preferably being a metal selected from the group comprising: copper, aluminium, magnesium, silver, gold, optionally in the form of an alloy, such as bronze.

20 It has been found that adding one or metals at this stage will enhance the drying properties of the resulting oil base.

It is not completely understood why this effect of adding metals is obtained. However, without being bound to any theory it is believed that adding metals will
25 increase the rate of polymerisation of the fatty acids present in the oil, thereby leading to shorter drying times.

In one embodiment of the first aspect of the present invention, said metal is present in an amount of 0.5 – 7 wt%, such as 1 – 6 wt%, such as 2 – 5 wt%, e.g. 3 – 4 wt%
30 based on the combined amount of stand oil, naturally occurring resins, and naturally occurring waxes mixed in step iv) of said process.

In one embodiment of the first aspect of the present invention said metal or alloy is a pulverised metal or alloy.

Such an amount of metal and type of metal has proven beneficial in obtaining the
5 desired effect of reducing drying times of the resulting oil base.

In one embodiment of the first aspect of the present invention a preservative is added to the mixture, preferably subsequent to step vi).

10 In one embodiment of the first aspect of the present invention the preservative is selected from the group comprising: sodium benzoate.

Sodium benzoate has been found to be an extremely effective and inexpensive preservative to be used with the oil base obtained in the method of the first aspect of
15 the present invention. However, also any other kind of suitable preservative may be added. The preservative ensures that the oil base can be shelved for years without any changes caused by microorganisms taking place.

In one embodiment of the first aspect of the present invention the mixture obtained in
20 step vi) is allowed to rest and solidify.

Hence, in this embodiment of the method, the manufacturing process is paused for a period of time after step vi) of said method.

25 In one embodiment of the first aspect of the present invention the mixture is allowed to rest and solidify for a period of time of 1 hour to 2 months or more.

Accordingly, a resting time of 2 hours – 50 days, such as 4 hours to 30 days, such as
8 hours to 25 days, such as 12 hours to 20 days, for example 18 hours to 15 days,
30 such as 1 days to 10 days, such as 2 days to 8 days, such as 4 days to 6 days may be possible.

It has been found that letting the mixture obtained in step vi) rest for a period of time improves the ability of the final oil base to take up additional oil, such as stand oil immediately prior to the application of the oil base. The mixing in of additional stand oil prior to use of the final oil base allows to adjust the plasticity or the viscosity of the oil base. The better the ability to take up additional oil prior to application of the oil base, the greater span of plasticity of the oil base can be obtained. It is in this respect important to note that it is paramount that the final oil base after application thereof does not ooze out any oil or other constituent.

10 In a case where the mixture obtained in step vi) is allowed to rest and solidify for a specific period of time it may be appropriate - before resuming the rest of the method, i.e. at least step vii) – to melt the solidified mixture.

15 In a preferred embodiment of the first aspect of the present invention metal is added prior to step vi) and furthermore, the mixture obtained in step vi) is allowed to rest and solidify for a specific period of time.

This embodiment of the method according to the present invention will ensure a faster and more homogeneous drying of the oil base.

20

In one embodiment of the first aspect of the present invention an additional oil is added to the mixture of the stand oil, the resin(s) and the wax(es) prior to step vii).

25 In one embodiment of the first aspect of the present invention said additional oil is selected from the group comprising sunflower oil, paraffin oil and castor oil and mixtures thereof.

30 It has been found beneficial if said additional oil or mixture of additional oils is added in an amount of up to 15 wt%, such as up to 12, wt%, e.g. up to 10 wt%, for example up to 8 wt%, e.g. up to 6 wt%, such as up to 6 wt% or up to 2 wt% of the amount of said mixture of the stand oil, the resin(s) and the wax(es).

Step vi) of the method according to the first aspect of the present invention is optional and involves cooling the mixture obtained to room temperature.

5 This step is preferably performed in a case where the mixture is allowed to rest and solidify before performing step vii) of the method according to the first aspect of the present invention.

Step vii) of the method according to the first aspect of the present invention involves subjecting the mixture obtained to a steam blowing process.

10

The steam blowing process simply may be performed by boiling an amount of water and leading the obtained water steam into the mixture obtained in step v) or vi).

15 The steam blowing results in a waxy material of water and the constituents provided in step i), ii) and iii) and any other constituents added during the steps of the method. This material may be describes as a matrix of water and said constituents, where the constituents may together have undergone further physical and chemical changes, intermolecular as well as intramolecular.

20 In one embodiment of the first aspect of the present invention liquid water is added in step vii) of said method, preferably demineralised liquid water.

25 In such an embodiment the amount of liquid water added may be 1 – 10 wt%, such as 2 – 9 wt%, for example 3 - 8 wt%, such as 4 – 7 wt%, such as 5 – 6 wt% based on the combined amount of said stand oil, said naturally occurring resins, and said naturally occurring waxes mixed in step iv).

In one embodiment of the first aspect of the present invention additional stand oil is added in step vii) of said method.

30

In one embodiment of the first aspect of the present invention the amount of additional stand oil is 0.01 – 10 wt%, such as 0.5 – 9 wt%, e.g. 1 – 8 wt%, such as 2 – 7 wt%, for example 3 – 6 wt%, such as 4 – 5 wt% based on the combined amount of said stand oil, said naturally occurring resins, and said naturally occurring waxes mixed in step iv).

It has been found that it is possible to “fine tune” or adjust the viscosity of the resulting oil base by adding liquid water and/or by adding additional stand oil in added in step vii) of said method. Adding liquid water in this step leads to a more viscous oil base, whereas adding additional stand oil leads to a less viscous and a more soft oil base.

En one embodiment of the first aspect of the present invention the steam blowing steps is performed for a period of time of 5 sec. to 190 sec., such as 10 – 180 sec., for example 20 – 170 sec., such as 30 – 160 sec., e.g. 40 – 150 sec., such as 50 – 140 sec., for example 60 – 130 sec., e.g. 70 – 120 sec., such as 80 – 110 sec. or 90 - 100 sec.

The oil base according to the second aspect of the present invention

20

The second aspect of the present invention relates to an oil base obtainable by the method according to the first aspect.

As mentioned above the last step of the method of the aspect of the present invention, viz. the steam blowing step will make the mixture hazy and waxy and it is believed that this process step is responsible for initiating further physical and chemical changes within and/or among the constituents making up the mixture to be subjected to steam blowing.

For this reason, it is not possible to define the product of the second aspect of the present invention, i.e. the oil base in purely structural terms.

Anyway, the oil base according to the second aspect of the present invention may be defined as a product comprising a steam blown mixture, said mixture originating from a homogeneous mixture of an amount of stand oil, an amount of naturally occurring resins, said resins comprise at least 10 wt% of sandarac resin, mastic resin or a mixture thereof, based on the total amount of naturally occurring resins; and an amount of naturally occurring waxes, said naturally occurring waxes comprise at least 10 wt% of beeswax based on the total amount of naturally occurring waxes.

In the present application it shall be understood that all the variations in the form of various embodiments to the process according to the first aspect of the present invention and as defined in the claims 2 – 30 likewise and correspondingly applies in respect of the oil base according to the second aspect of the present invention.

The use of an oil base for artistic oil painting according to the third aspect of the present invention

The third aspect of the present invention relates to the use of an oil base as defined in the second aspect of the present invention for artistic oil painting.

In one embodiment of the third aspect of the present invention the use relates to the preparation of a canvas for artistic oil painting.

In another embodiment of the third aspect of the present invention the use relates to the preparation of an artistic oil painting paint.

Further details of these uses are described in the sections below.

A canvas according to the fourth aspect of the present invention

The fourth aspect of the present invention relates to a canvas for artistic oil painting.

The canvas according to the fourth aspect of the present invention comprises a conventionally or traditionally canvas and an application of the oil base according to the second aspect of the present invention.

- 5 In the present description and in the appended claims, the term “canvas” shall be understood to mean any suitable material traditionally and/or conventionally used as support for oil paints in a painting. Hence, the term “canvas” may mean a cloth, such as cotton or flax, such as Belgian linen; or a hard material, such as wood, a board of natural and/or synthetic fibres or any other suitable material.

10

A cloth canvas is simply obtained by suspending a traditional and/or conventional cloth on a frame, such as a wooden frame and applying a suitable amount of the oil base according to the second aspect of the present invention onto said cloth.

- 15 The amount of oil base applied to the canvas will suitably follow the intended thickness of oil paint to be applied to the canvas; if a relatively thick layer of oil paints is intended, a relatively thick layer of oil base is applied to the canvas and vice versa.

- 20 In one embodiment of the fourth aspect of the present invention said canvas comprises an application of gesso beneath said application of said oil base.

In one embodiment of the fourth aspect of the present invention said gesso is a traditional gesso or an acrylic gesso.

25

In one embodiment of the fourth aspect of the present invention said gesso is selected from the group comprising: PVA (polyvinyl acetate), bone glue, egg tempera and a fixative.

- 30 The canvas according to the fourth aspect of the present invention allows for painting with traditionally oil paints without the necessity of using drying agents and/or

turpentine containing hazardous volatile organic solvents and with the possibility of being able to apply new layers of traditionally oil paints within as little as six hours.

It is preferred that the oil base applied to the canvas is an oil base obtained by a method according to the first aspect and in which a metal has been added prior to step vi).

A paint according to a fifth aspect of the present invention

10 The fifth aspect of the present invention relates to a paint for artistic oil painting.

The paint according to the fifth aspect comprises an oil base according to the second aspect of the present invention and one or more colouring agents.

15 The oil painting paints are obtained by gradually blending and mixing in an amount of a specific colouring agent in a predetermined amount of oil base

In one embodiment of the fifth aspect of the present invention said colouring agents are selected from the group comprising: dyes and pigments.

20

In one embodiment of the fourth aspect of the present invention said paint additionally comprises an amount of aluminium tartrate.

The addition of aluminium tartrate will provide a "shadowing effect" to the oil paint as it is well known in the art of oil paints for artistic use and also tend to improve the drying ability of the oil paint.

25

In one embodiment of the fifth aspect of the present invention the colouring agent is a white pigment.

30

Suitable white pigments may be selected from the group comprising: titanium white, titanium and zinc white, flake white hue, iridescent white, titanium white, pigment white 6, zinc white, lead white, lead carbonate.

- 5 In one embodiment of the fifth aspect of the present invention the colouring agent is a blue pigment.

Suitable blue pigments may be selected from the group comprising: ultramarine deep, ultramarine light, ultramarine blue (green shade), Lefranc blue, cobalt blue, cobalt
10 blue hue, royal blue, space blue, ocean blue, cerulean blue, cerulean blue hue, cobalt silicate blue, cobalt kings blue.

In one embodiment of the fifth aspect of the present invention the colouring agent is a red pigment.

15

Suitable red pigments may be selected from the group comprising: Breughel red, French red vermillion hue, Red vermillion hue, Cadmium red light, Cadmium red medium, Japanese red deep, Chinese red vermillion hue, Bright red, Cadmium red deep, Lefranc red, Rose madder hue, Ruby red, Lefranc pink, Lefranc crimson,
20 Lefranc garnet red, Alizarin carmine, Carmin lake hue, Permanent red deep, Scarlet, Carmin, Cinnober red, Perylen red Pigment, Alizarin, Crimson red, Kraplak.

In one embodiment of the fifth aspect of the present invention the colouring agent is a green pigment.

25

Suitable green pigments may be selected from the group comprising: Green umbra, Terre Verte, lemon green light, cadmium green (yellowish), cadmium green, cadmium green, permanent green light. Phthlo green, Phthlo Amor green, Japanese green deep, Chrome green deep, Zink green dark, Chromgreen yellowish, Chrome
30 Green dark / light, Chrome oxide green, Chrome oxide green, Olive green,

Permanent sap green, Veronese green hue, Terre Verte, Chrome oxide Green, Viridian, Cobalt green, Azure blue hue, Sepia green, Indigo, Porphyr Green.

5 In one embodiment of the fifth aspect of the present invention the colouring agent is a yellow pigment.

Suitable yellow pigments may be selected from the group comprising: Cadmium yellow, Nickelazo yellow, Sulphur yellow, Japanese yellow lemon, Lefranc yellow, Cadmium yellow lemon, Japanese yellow light, Cadmium yellow light, Senegal
10 Yellow, Cadmium yellow medium, Japanese yellow deep, Chrome yellow medium hue, Indian yellow hue, Chrome Yellow deep hue, Sahara yellow, Cadmium yellow deep, Yellow ochre light, Yellow ochre, Transparent Yellow ochre, Mars Yellow, Golden ochre, Raw Sienna, Yellow ochre, Ochre hue.

15 In one embodiment of the fifth aspect of the present invention the colouring agent is orange pigment.

Suitable orange pigments may be selected from the group comprising: Japanese yellow orange, Cadmium yellow orange, Bright orange, Transparent Indian orange,
20 Coral, Mars orange, Benzidazolon orange, Quanicrondon orange, Benzimidazolon orange, Perinon orange, Isoindolinon, Chrome orange.

In one embodiment of the fifth aspect of the present invention the colouring agent is a violet pigment.

25

Suitable purple pigments may be selected from the group comprising: Permanent violet, Red violet light, Cobalt violet red, Lefranc Crimson, Garnet red, Allzarin Carmine, Lefranc pink, Red violet light, Permanent rose, Red violet deep, Madder lake deep, Cobaltviolet, Bluish grey Rembrandt, Cobalt violet light, Violet lacquer
30 blue, Mineral violet light, Strong violet, Violet (blue shade), Ultramarine deep violet,

Ultramarin blue 907, Ultramarin violet, Cobolt blue hue, Mauve Violet, manganese violet, Egyptian Violet hue, Dioxazin violet, Indanthron blue.

In one embodiment of the fifth aspect of the present invention the colouring agent is
5 a brown pigment.

Suitable brown pigments may selected from the group comprising: Permanent Vandyke brown, Transparent brown, Burnt umber, Kassler brown.

10 In one embodiment of the fifth aspect of the present invention the colouring agent is a black pigment.

Suitable black pigments may be selected from the group comprising: Ivory Black, Carbon black, Bitumen, Asphalt Bitumen / Graphite, Mangan Black, Iron oxide
15 black, Graphite, Peach Stone Black, Grape stone black, Cherry Stone black, Atramentum black, Peach black, Bister black, Payns gray, Mars Black, Oxide Black, Obsidian black.

In one embodiment of the fifth aspect of the present invention the colouring agent
20 comprises graphite, said graphite preferably being present in a pulverized state and/or in an amount of 10 – 60 wt% of said oil base.

In one embodiment of the fifth aspect of the present invention the colouring agent comprises bitumen, said bitumen preferably being present in an amount of 10 – 60
25 wt% of said oil base.

In one embodiment of the fifth aspect of the present invention the colouring agent is a colouring agent providing a metallic colour, such as a golden colour, a silver colour, a bronze-like colour or a copper-like colour, said colouring agent providing a

metallic colour preferably being present in a pulverized state and/or in an amount of 10 – 80 wt% of said oil base.

In one embodiment of the fifth aspect of the present invention the colouring agent is
5 a colouring agent providing a silvery appearance, such as aluminium powder.

In one embodiment of the fifth aspect of the present invention the colouring agent is a colouring agent providing a copper-like appearance, such as copper powder.

10 In one embodiment of the fifth aspect of the present invention the colouring agent is a colouring agent providing a golden appearance, such as gold bronze powder.

In the fifth aspect of the present invention the weight ratio of colouring agent:oil base may range from 0.01:0.50, such as 0.02:0.45, e.g. 0.05:0.40, such as 0.10:0.35, such
15 as 0.15:0.30, for example 0.20:0.25.

Examples

Example 1

20 This example illustrates a method according to the first aspect of the present invention for the preparation of an oil base according to the second aspect of the present invention.

350 g stand oil was provided along with 100 g sandarac resin and 200 g purified
25 (bleached) beeswax. Before use, the sandarac resin was rinsed in ethanol and subsequently strained in a sieve.

The stand oil was poured into a pressure cooker and the sandarac resin and 5 ml of linseed oil varnish was added to the stand oil. This mixture was heated to
30 approximately 30 °C until the sandarac resin was dissolved. Subsequently, the

beeswax was added. This mixture was heated to approximately 30 °C in order to obtain a homogeneous mixture. The mixture was carefully stirred during the heating.

When all the solids had dissolved and a homogeneous mixture was obtained, 32.5 g
5 of aluminium bronze was added. Subsequently the mixture was stirred for about 10 min.

Thereafter a lid was tightly and securely fastened to the pressure cooker. The temperature of the content of the pressure cooker was increased from 30 °C to 95 °C.
10 The temperature was kept at 95 °C for 4 hours whereafter the temperature was lowered to 60 °C. The temperature was kept at 60 °C for 4 hours.

Finally, the mixture was cooled to 30 °C. At this point a small amount of sodium benzoate was added as a preservative.

15 Subsequently the mixture was subjected to a steam blowing process, wherein water steam was blown into the mixture obtained above. The steam blowing took place for 10 seconds and was performed while the mixture was agitated. The obtained mixture had a hazy, partly transparent white to slightly yellow appearance.

20

Example 2

This example illustrates a method according to the first aspect of the present invention for the preparation of an oil base according to the second aspect of the present invention.

25

The procedure as set out in respect of Example 1 above was repeated with the exception that no aluminium bronze was added prior to the steam blowing process.

30

Example 3

This example illustrates a method according to the first aspect of the present invention for the preparation of an oil base according to the second aspect of the present invention.

5

The procedure as set out in respect of Example 1 above was repeated with the exception that after addition of the aluminium bronze and prior to the steam blowing step, the mixture was poured into casting moulds. The mixture was allowed to rest for four weeks at room temperature in these moulds. Upon cooling to room
10 temperature, the mixture solidified to a waxy product.

The waxy product was melted before the steam blowing process step.

Example 4

15 This example illustrates the painting of a painting using traditional oil paints and using drying agents.

A canvas of Belgian linen suspended on a wooden frame measuring 50 x 50 cm was painted by blending traditional oil painting paints representing the full visible colour
20 spectrum with siccative on a palette. After a drying time of 8 hours the applied layers of oil painting paints were dry enough for application of a new layer of paints. The evaporation of the solvents of the siccative left behind in the studio a heavy smell of organic solvents.

Example 5

25 This example illustrates the painting of a painting using traditional oil paints and where no siccative was used.

Example 4 was repeated with the exception that no siccative or other drying agents
30 were used.

In this case, the applied oil paints were not dry enough for application of a new layer of paint before even after a drying time of more than two months.

Example 6

- 5 This example illustrates according to the fourth aspect of the present invention the preparation of a canvas comprising an oil base according to the second aspect of the present invention.

10 A traditional oil painting canvas of Belgian linen suspended on a wooden frame measuring 50 x 50 cm and applied with a gesso of bone glue and titanium white was subsequently applied with a layer of the oil base of example 2. A total of 20 ml of this oil base was applied on the canvas. The prepared canvas was allowed to rest for 12 hours.

- 15 Thereafter, an artist was allowed to paint a painting on the prepared canvas using traditionally oil painting paints representing the full visible colour spectrum, but no turpentine or drying agents were used.

20 The traditionally oil painting paints blended well with the oil base applied to the canvas.

- After 8 hours the applied traditional oil painting paints were sufficiently dry to allow the painter to apply a new layer of the same type of traditional oil painting paints. Again, after 8 hours the applied oil painting paints were sufficiently dry to allow the
25 artist to apply a new layer of paint.

This Example accordingly illustrates the beneficial effect of an oil base according to the first aspect of the present invention allowing oil painting without use of hazardous solvents and drying agents.

Example 7

This example illustrates the preparation of fast drying oil painting paints according to the fifth aspect of the present invention and comprising an oil base according to the second aspect of the present invention.

5

A wide range of colour pigments representing the full visible colour spectrum were each individually mixed with the oil base obtained in Example 1.

Depending on the exact intensity of the colour desired by the artist, the weight ratio
10 colour pigment:oil base ranged from 0.01:0.50.

The oil painting paints were obtained by gradually blending and mixing in an amount of a specific pulverised colour pigment in a predetermined amount of oil base.

15 An artist was allowed to paint a painting on a traditional oil painting canvas of Belgian linen suspended on a wooden frame measuring 50 x 50 cm and applied with a gesso of bone glue and titanium white by using the oil painting paints of this example. No turpentine or drying agents were used.

20 After 8 hours the applied traditional oil painting paints were sufficiently dry to allow the painter to apply a new layer of the same type of traditional oil painting paints. Again, after 8 hours the applied oil painting paints were sufficiently dry to allow the artist to apply a new layer of paint.

25 The painting process did not leave any smell of organic solvents in the artist's studio. The artist was able to utilise the modelling effect of the oil paints and apply thick layers of paint onto the canvas where desired by not blending in any additional oil in the oil paints; or to apply thin, silk like layers where desired by blending in a small amount of bleached linseed oil into the oil paints. Hence, the viscosity of the paints
30 could be adjusted by adding bleached linseed oil.

The oil paints adhered very well to the canvas and the artist was able to easily smear out the paints on the canvas and onto the layer of paint already applied to the canvas.

The oil paints did not flow or drip or otherwise move, once applied to the canvas.

5

Furthermore, the oil paints could be mixed with various kinds of additives, such as matting additives and glossing additives conventionally and traditionally used with oil paints for artistic use.

- 10 The same visual effects of the oil painting paints as with traditional oil paints could be obtained. However, the oil paints of this example provided better possibilities of modelling the oil paints into thick layers and thereby to obtain an improved depth effect of the oil paints, compared to traditional oil paints.

15 **Example 8**

This example illustrates the preparation of fast drying oil painting paints according to the fifth aspect of the present invention and comprising an oil base according to the second aspect of the present invention.

- 20 A same range of colour pigments in different colours as were used in Example 7 were each individually mixed with the oil base obtained in Example 2.

The same visual effects of the oil painting paints as with traditional oil paints could be obtained. However, the oil colours based on the oil base of example 2, the

- 25 preparation of which did not involve adding metals, tended to dry slower compared to the oil painting paints obtained in example 7.

Example 9

This example illustrates advantageous recipes of an oil base according to the second

30

aspect of the present invention.

Oil bases according to the second aspect of the present invention made from the constituents set out in the table 1 below were made following the procedure set out in example 1 and 2 respectively:

5

Example No.	Amount of stand oil (wt%)	Amount and types of naturally occurring resins (wt%)	Amount and types of naturally occurring waxes (wt%)	Metals added prior to step vi)
9a	45	20 (sandarac resin)	35 - (a 50/50 (wt%)) mixture of beeswax and canauba wax	Yes – aluminium bronze
9b	20	10 (sandarac resin)	70 - (a 10/90 (wt%)) mixture of beeswax and candelilla wax	No
9c	70	5 (a 50/50 (wt%)) mixture of mastic and sandarac resin	25 - (a 90/10 (wt%)) mixture of beeswax and canauba wax	Yes – aluminium bronze
9d	20	70 (a 50/50 (wt%)) mixture of mastic and sandarac resin	10 - beeswax	No

Table 1

The oil bases of example 9a, 9b, 9c and 9d all showed similar behaviour as the oil bases obtained in example 1 and 2.

Claims

1. A method for the manufacture of an oil base for use in artistic oil painting, comprising the steps:

5

i) providing an amount of stand oil;

ii) providing an amount of naturally occurring resins, said resins comprise at least 10 wt% of sandarac resin, mastic resin or a mixture thereof, based on the total amount of
10 naturally occurring resins;

iii) providing an amount of naturally occurring waxes, said naturally occurring waxes comprise at least 10 wt% of beeswax based on the total amount of naturally occurring waxes;
15

iv) mixing said amount of stand oil provided in step i) with said amount of naturally occurring resins provided in step ii) and said amount of naturally occurring waxes provided in step iii);

20 v) carefully stirring the mixture obtained in step iv) at a temperature which enables obtaining a homogeneous mixture;

vi) optionally cooling the homogeneous mixture obtained in the previous step to room temperature;

25

vii) subjecting the mixture obtained in the previous step for a steam blowing process by blowing steam into said mixture for a period of time sufficient for obtaining a hazy appearance of said mixture; said steam blowing process being preferably performed under agitation.

30

2. A method according to claim 1, wherein the amount of stand oil is 9 – 99 wt% based on the combined amount of said stand oil, said naturally occurring resins, and said naturally occurring waxes mixed in step iv).

5 3. A method according to claim 2, wherein the amount of stand oil is 10 - 95 wt%, such as 15 – 90 wt%, e.g. 20 – 85 wt%, such as 25 – 80 wt%, for example 30 – 75 wt%, such as 35 – 70 wt%, e.g. 40 – 65 wt%, such as 45 – 60 wt% or 50 - 55 wt% based on the combined amount of said stand oil, said naturally occurring resins, and said naturally occurring waxes mixed in step iv).

10

4. A method according to any of the claims 1 - 3, wherein the amount of the naturally occurring resins is 0.02 - 85 wt% based on the combined amount of said stand oil, said naturally occurring resins, and said naturally occurring waxes mixed in step iv).

15 5. A method according to claim 4, wherein the amount of the naturally occurring resins is 0.5 - 80 wt%, such as 1 – 75, for example 5 – 70 wt%, such as 10 – 65 wt%, such as 15 – 60 wt%, for example 20 – 55 wt%, e.g. 25 – 50 wt%, such as 30 – 45 wt% or 35 - 40 wt%, based on the combined amount of said stand oil, said naturally occurring resins, and said naturally occurring waxes mixed in step iv).

20

6. A method according to any of the preceding claims, wherein the amount of the naturally occurring waxes is 0.3 - 78 wt% based on the combined amount of said stand oil, said naturally occurring resins, and said naturally occurring waxes mixed in step iv).

25

7. A method according to claim 6, wherein the amount of the naturally occurring waxes is 0.5 - 75 wt%, such as 0.7 – 70, such as 1 – 65, for example 5 – 60, such as 10 – 55, for example 15 – 50, such as 20 – 45, such as 25 – 40 or 30 – 35, based on the combined amount of said stand oil, said naturally occurring resins, and said
30 naturally occurring waxes mixed in step iv).

8. A method according to any of the preceding claims, wherein the naturally occurring resins provided in step ii) are selected from the group comprising: sandarac, mastic, dammar, shellac, colophonium, xanthorrhoea resins.

5 9. A method according to any of the preceding claims, wherein the naturally occurring waxes provided in step iii) are selected from the group comprising: beeswax, canauba wax, candelilla wax.

10 10. A method according to any of the preceding claims, wherein the temperature of the mixture in step v) is 25 – 90 °C, such as 30 – 85 °C, e.g. 35 – 80 °C, such as 40 – 75 °C, for example 45 – 70 °C, e.g. 50 – 65 °C, such as 55 – 60 °C.

11. A method according to any of the preceding claims, wherein step v) is performed essentially without aerating said mixture.

15

12. A method according to any of the preceding claims, wherein step v) is performed for a period of time of 5 sec. to 190 sec., such as 10 – 180 sec., for example 20 – 170 sec., such as 30 – 160 sec., e.g. 40 – 150 sec., such as 50 – 140 sec., for example 60 – 130 sec., e.g. 70 – 120 sec., such as 80 – 110 sec. or 90 – 100 sec.

20

13. A method according to any of the preceding claims, wherein the naturally occurring resin(s) prior to blending with the stand oil and the naturally occurring wax(es) is/are dissolved or suspended in an amount of linseed oil varnish.

25 14. A method according to claim 13 wherein the amount of linseed oil varnish dissolving or suspending the naturally occurring resin(s) is 0.1 – 10 wt% of the amount of the naturally occurring resin(s), such as 0.2 – 8 wt%, e.g. 0.5 – 7 wt%, such as 1 – 6 wt%, e.g. 2 – 5 wt%, such as 3 – 4 wt% of the amount of the naturally occurring resin(s).

30

15. A method according to any of the preceding claims, wherein the process prior to step vi) comprises the step of heating the mixture to a temperature of 60 – 90 °C, whereafter one or more metals are added and subsequently stirred in carefully, said metal preferably being a metal selected from the group comprising: copper,
5 aluminium, magnesium, silver, gold, optionally in the form of an alloy, such as bronze.

16. A method according to claim 15, wherein said metal is present in an amount of 0.5 – 7 wt%, such as 1 – 6 wt%, such as 2 – 5 wt%, e.g. 3 – 4 wt% based on the
10 combined amount of stand oil, naturally occurring resins, and naturally occurring waxes mixed in step iv).

17. A method according to claim 15 or 16, wherein said metal or alloy is a pulverised metal or alloy.

15

18. A method according to any of the preceding claims, wherein a preservative is added to the mixture, preferably subsequent to step vi).

19. A method according to claim 18, wherein the preservative is selected from the
20 group comprising: sodium benzoate.

20. A method according to any of the preceding claims, wherein the mixture obtained in step vi) is allowed to rest and solidify.

21. A method according to claim 20, wherein the mixture is allowed to rest and solidify for a period of time of 1 hour to 2 months or more.

22. A method according to claim 20 or 21 furthermore comprising the step of melting the solidified mixture prior to step vii).

30

23. A method according to claim 15 and 22.

24. A method according to any of the preceding claims further comprising adding liquid water in step vii), preferably demineralised liquid water, in order to adjust the viscosity of the oil base.

5 25. A method according to claim 24, wherein the amount of liquid water added is 1 – 10 wt%, such as 2 – 9 wt%, for example 3 – 8 wt%, such as 4 – 7 wt%, such as 5 – 6 wt% based on the on the combined amount of said stand oil, said naturally occurring resins, and said naturally occurring waxes mixed in step iv).

10 26. A method according to any of the preceding claims, further comprising adding additional stand oil in step vii) in order to adjust the viscosity of the oil base.

27. A method according to claim 26, wherein the amount of additional stand oil is 0.01 – 10 wt%, such as 0.5 – 9 wt%, e.g. 1 – 8 wt%, such as 2 – 7 wt%, for example
15 3 – 6 wt%, such as 4 – 5 wt% based on the combined amount of said stand oil, said naturally occurring resins, and said naturally occurring waxes mixed in step iv).

28. A method according to any of the preceding claims, wherein an additional oil is added to the mixture of the stand oil, the resin(s) and the wax(es) prior to step vii).

20

29. A method according to claim 28, wherein said additional oil is selected from the group comprising sunflower oil, paraffin oil and castor oil and mixtures thereof.

30. A method according to claim 28 or 29, wherein said additional oil or mixture of
25 additional oils is added in an amount of up to 15 wt%, such as up to 12, wt%, e.g. up to 10 wt%, for example up to 8 wt%, e.g. up to 6 wt%, such as up to 6 wt% or up to 2 wt% of the amount of said mixture of the stand oil, the resin(s) and the wax(es).

31. An oil base obtainable according to the method of any of the claims 1 – 30.

30

32. Use of an oil base according to claim 31 for artistic oil painting.

33. Use according to claim 32 for the preparation of an artistic oil painting canvas.

34. Use according to claim 32 for the preparation of an artistic oil painting paint.

5 35. A canvas for artistic oil painting wherein said canvas comprises an application of the oil base obtainable according to the method of any of the claims 1 – 31.

36. A canvas according to claim 32, wherein said canvas comprises an application of gesso beneath said application of said oil base.

10

37. A canvas according to claim 36, wherein said gesso is a traditional gesso or an acrylic gesso.

38. A canvas according to claim 37, wherein said gesso is selected from the group
15 comprising: PVA (polyvinyl acetate), bone glue, egg tempera and a fixative.

39. A paint for artistic oil painting comprising an oil base according to claim 31 and one or more colouring agents.

20 40. A paint according to claim 39 wherein, said colouring agents is selected from the group comprising dyes, pigments.

41. A paint according to 39 or 40, wherein said paint additionally comprises an amount of aluminium tartrate.

25

42. A paint according to any of the claims 39 - 41, wherein said colouring agent is a white pigment.

43. A paint according to claim 42, wherein said white pigment is selected from the
30 group comprising: titanium white, titanium and zinc white, flake white hue,

iridescent white, titanium white, pigment white 6, zinc white, lead white, lead carbonate.

44. A paint according to any of the claims 39 - 41, wherein said colouring agent is a
5 blue pigment.

45. A paint according to claim 44, wherein said blue pigment is selected from the group comprising: ultramarin deep, ultramarin light, ultramarine blue (green shade), Lefranc blue, cobalt blue, cobalt blue hue, royal blue, space blue, ocean blue,
10 cerulean blue, cerulean blue heu, cobalt silicate blue, cobalt kings blue.

46. A paint according to any of the claims 39 - 41, wherein said colouring agent is a red pigment.

15 47. A paint according to claim 46, wherein said red pigment is selected from the group comprising: Breughel red, French red vermillion hue, Red vermillion hue, Cadmium red light, Cadmium red medium, Japanese red deep, Chinese red vermillion hue, Bright red, Cadmium red deep, Lefranc red, Rose madder hue, Ruby red, Lefranc pink, Lefranc crimson, Lefranc garnet red, Alzarin carmine, Carmin
20 lake hue, Permanent red deep, Scarlet, Carmin, Cinnober red, Perylen red Pigment, Alizarin, Crimson red, Kraplak.

48. A paint according to any of the claims 39 - 41, wherein said colouring agent is a green pigment.
25

49. A paint according to claim 48, wherein said green pigment is selected from the group comprising: Green umbra, Terre Verte, lemon green light, cadmium green (yellowish), cadmium green, cadmium green, permanent green light. Phthlo green, Phthlo Amor green, Japanese green deep, Chrome green deep, Zink green dark,
30 Chromgreen yellowish, Chrome Green dark / light, Chrome oxide green, Chrome oxide green, Olive green, Permanent sap green, Veronese green hue, Terre Verte,

Chrome oxide Green, Viridian, Cobalt green, Azure blue hue, Sepia green, Indigo, Porphyr Green.

50. A paint according to any of the claims 39 - 41, wherein said colouring agent is a
5 yellow pigment.

51. A paint according to claim 50, wherein said yellow pigment is selected from the group comprising: Cadmium yellow, Nickelazo yellow, Sulphur yellow, Japanese yellow lemon, Lefranc yellow, Cadmium yellow lemon, Japanese yellow light,
10 Cadmium yellow light, Senegal Yellow, Cadmium yellow medium, Japanese yellow deep, Chrome yellow medium hue, Indian yellow hue, Chrome Yellow deep hue, Sahara yellow, Cadmium yellow deep, Yellow ochre light, Yellow ochre, Transparent Yellow ochre, Mars Yellow, Golden ochre, Raw Sienna, Yellow ochre, Ochre hue.

15

52. A paint according to any of the claims 39 - 41, wherein said colouring agent is orange pigment.

53. A paint according to claim 52, wherein said orange pigment is selected from the
20 group comprising: Japanese yellow orange, Cadmium yellow orange, Bright orange, Transparent Indian orange, Coral, Mars orange, Benzidazon orange, Quanicrondon orange, Benzimidazon orange, Perinon orange, Isoindolinon, Chrome orange.

54. A paint according to any of the claims 39 - 41, wherein said colouring agent is a
25 violet pigment.

55. A paint according to claim 54, wherein said purple pigment is selected from the group comprising: Permanent violet, Red violet light, Cobolt violet red, Lefranc Crimson, Garnet red, Allzarin Carmine, Lefranc pink, Red violet light, Permanent
30 rose, Red violet deep, Madder lake deep, Coboltviolet, Bluish grey Rembrandt, Cobolt violet light, Violet lacquer blue, Mineral violet light, Strong violet, Violet

(blue shade), Ultramarin deep violet, Ultramarin blue 907, Ultramarin violet, Cobolt blue hue, Mauve Violet, manganese violet, Egyptian Violet hue, Dioxazin violet, Indanthron blue.

- 5 56. A paint according to any of the claims 39 - 41, wherein said colouring agent is a brown pigment.

57. A paint according to claim 56, wherein said brown pigment is selected from the group comprising: Permanent Vandyke brown, Transparent brown, Burnt umber,
10 Kassler brown.

58. A paint according to any of the claims 39 - 41, wherein said colouring agent is a black pigment.

- 15 59. A paint according to claim 58, wherein said black pigment is selected from the group comprising: Ivory Black, Carbon black, Bitumen, Asphalt Bitumen / Graphite, Mangan Black, Iron oxide black, Graphite, Peach Stone Black, Grape stone black, Cherry Stone black, Atramentum black, Peach black, Bister black, Payns gray, Mars Black, Oxide Black, Obsidian black.

20

60. A paint according to claim 39 comprising graphite, said graphite preferably being present in a pulverized state and/or in an amount of 10 – 60 wt% of said oil base.

61. A paint according to claim 39 comprising bitumen, said bitumen preferably being
25 present in an amount of 10 – 60 wt% of said oil base.

62. A paint according to claim 39, wherein said colouring agent is an agent providing a metallic colour, such as a golden colour, a silver colour, a bronze-like colour or a copper-like colour, said colouring agent providing a metallic colour preferably being
30 present in a pulverized state and/or in an amount of 10 – 80 wt% of said oil base.

63. A paint according to claim 62, wherein the colouring agent is a colouring agent providing a silvery appearance, such as aluminium powder.
64. A paint according to claim 62, wherein the colouring agent is a colouring agent providing a copper-like appearance, such as copper powder.
65. A paint according to claim 62, wherein the colouring agent is a colouring agent providing a golden appearance, such as gold bronze powder.
66. A paint according to any of the claims 39 - 65, wherein the weight ratio of colouring agent:oil base ranges from 0.01:0.50, such as 0.02:0.45, e.g. 0.05:0.40, such as 0.10:0.35, such as 0.15:30, for example 0.20:0.25.

INTERNATIONAL SEARCH REPORT

International application No
PCT/DK2011/000058

A. CLASSIFICATION OF SUBJECT MATTER

INV. C09D5/06 C09D191/00 C09D193/00
ADD.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
C09D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	PITTHARD V ET AL: "Gas Chromatography - Mass Spectrometry of Binding Media from Early 20th Century Paint Samples from Arnold Schönberg's Palette", CHROMATOGRAPHIA ; AN INTERNATIONAL JOURNAL FOR RAPID COMMUNICATION IN CHROMATOGRAPHY, ELECTROPHORESIS AND ASSOCIATED TECHNIQUES, VIEWEG VERLAG, WI, vol. 62, no. 3-4, 1 August 2005 (2005-08-01), pages 175-182, XP019358484, ISSN: 1612-1112 the whole document ----- -/--	1-66



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- "&" document member of the same patent family

Date of the actual completion of the international search

27 September 2011

Date of mailing of the international search report

18/10/2011

Name and mailing address of the ISA/

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040,
Fax: (+31-70) 340-3016

Authorized officer

Schmitt, Johannes

INTERNATIONAL SEARCH REPORT

International application No

PCT/DK2011/000058

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	Anonymous: "Paul McMillan -Biographical Statement", Paul McMillanPaintings 18 July 2003 (2003-07-18), XP002659887, Retrieved from the Internet: URL:http://web.archive.org/web/20030718193828/http://www.paulmcmillan.com/biography.html [retrieved on 2011-09-23] the whole document -----	1-66
A	US 7 141 109 B1 (VELASQUEZ LOUIS R [US]) 28 November 2006 (2006-11-28) the whole document -----	1-66
A	WO 00/00551 A1 (FELS DONALD C JR [US]) 6 January 2000 (2000-01-06) the whole document -----	1-66
A	EP 0 652 270 A2 (AURO PFLANZENCHEMIE GMBH [DE]) 10 May 1995 (1995-05-10) the whole document -----	1-66
A	GB 17815 A A.D. 1909 (EARLE HUDSON; FENELON HENRY) 5 May 1910 (1910-05-05) the whole document -----	1-66
A	DATABASE WPI Week 199719 Thomson Scientific, London, GB; AN 1997-204160 XP002659886, & CN 1 097 438 A (SUN P) 18 January 1995 (1995-01-18) abstract -----	1-66

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/DK2011/000058

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 7141109	B1	28-11-2006	NONE
WO 0000551	A1	06-01-2000	US 6011097 A 04-01-2000
EP 0652270	A2	10-05-1995	DE 4338110 A1 11-05-1995
GB 190917815	A	05-05-1910	NONE
CN 1097438	A	18-01-1995	NONE