

# A tabulated listing of industrially produced tempera paints, c. 1900

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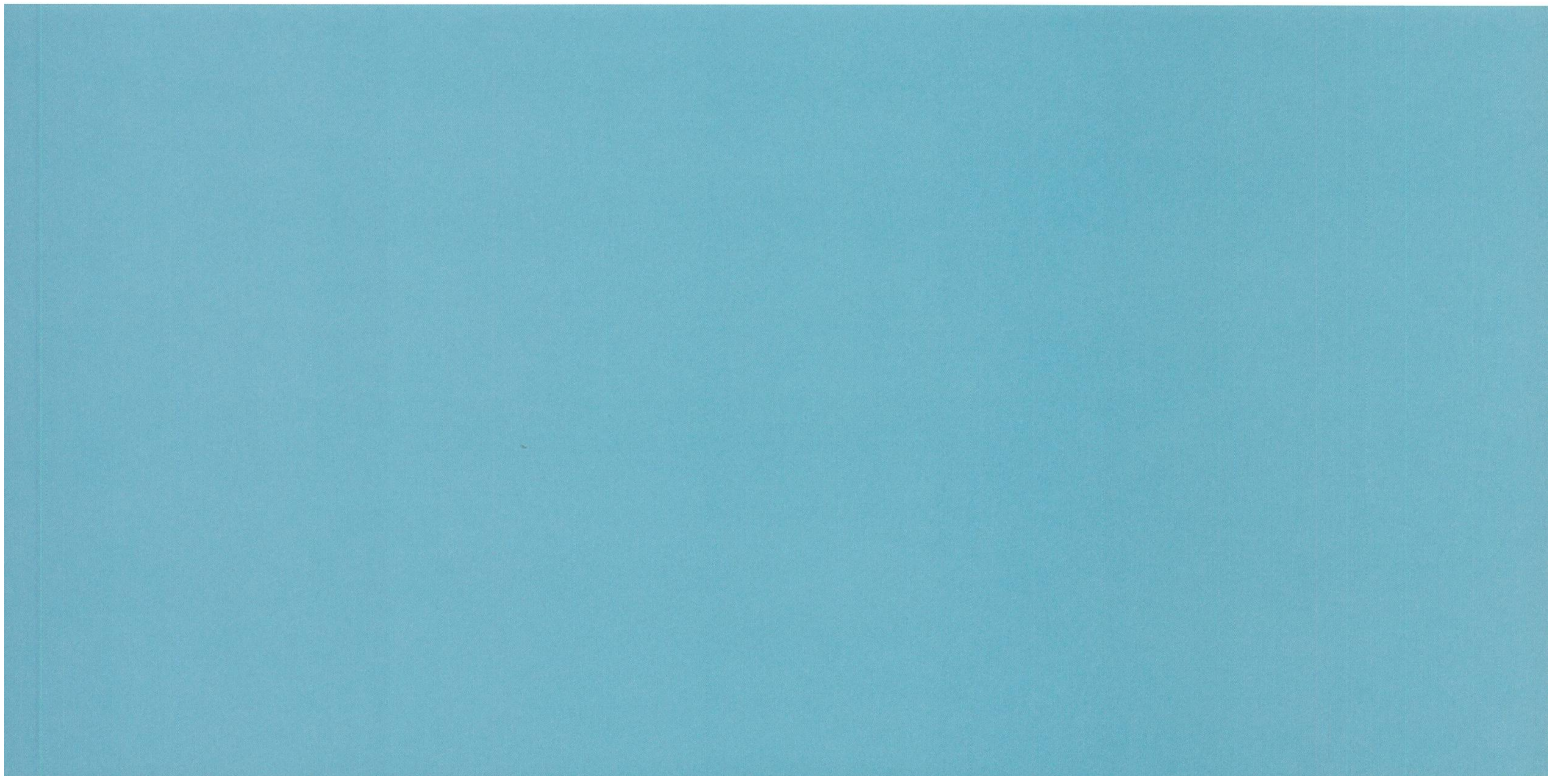
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# A tabulated listing of industrially produced tempera paints, c. 1900

Albrecht Pohlmann, Kathrin Kinseher, Wibke Neugebauer, Eva Reinkowski-Häfner and Simona Rinaldi



## PRELIMINARY REMARKS

Although this table was compiled over many years, it is by no means exhaustive.

**Product name:** The product names are ordered alphabetically (in **bold**), for easy searching, and cross-referenced where relevant. Where the 'official' trade name of a product is known (e.g. from manufacturers' advertisements), no quotation marks are used. In cases where the name has been found in a second-hand source, where the designation(s) may have been improvised by the authors of those texts, we have indicated this uncertainty by the use of 'quotation marks'.

We cannot be sure whether all of the tempera types in this compilation were available in tubes; therefore, what we do know is specified ('paint in tubes' or 'not available in tubes').

Remarks and translations of lengthy descriptions of products are given in the endnotes.

**Composition of binding medium:** The information is generally derived from the source literature specified in the column 'selected bibliography'. In a few cases it is derived from recent material analyses of historical paints.

**Selected bibliography:** Where recent monographs exist, we refer to the bibliographies therein.

**Artists:** The names were derived from literature given in the column 'selected bibliography' and indicate artists known to have used the paints in question.

PRODUCT NAME	INVENTOR	COMPANY NAME
<b>Aquolin</b>	Emil Jacobsen (1836–1911)	Dr Emil Jacobsen, Berlin-Charlottenburg: Laboratorium und Fabrikation für chemisch-technische Spezialitäten
<b>Ariston-Tempera-Farben</b> → Schoenfeld		
Procédé <b>Artigue</b> → Lefranc & Cie, 'Couleurs "Tempera" Mates'		
<b>Bössenroths</b> Tempera (paint in tubes)	Carl Bössenroth (1863–1935)	Carl Bössenroth, Dachau
Tempera-Pastell <b>Bössenroth</b> (pastel sticks)	ditto	Vereinigte Farben- und Lackfabriken von Finster & Meisner, Munich (later: Flamuco-Künstlerfarbenfabrik)
<b>'Boyer'sche</b> Tempera' / 'Boyers Oeltempera' (paint in tubes)	Otto Boyer (1874–1912)	Stefan Schoenfeld, Düsseldorf
<b>'Busstempera'</b> (paint in tubes)	Otto Buss (1871–1906)	Dr Otto Buss & Co., Rüslikon (near Zurich)
<b>'Casein-Bindemittel (reine Caseinlösung)'</b> → Schmincke		
<b>Casein-Bindemittel (A, B, C, H, Q, HQ, S)</b> → Schoenfeld (also produced by A. Richard, Düsseldorf)		
<b>Casein-Bindemittel (R, W, P)</b> → Schoenfeld (also produced by A. Richard, Düsseldorf)		
<b>Couleurs à l'oeuf</b> tempera → Sennelier		
<b>Couleurs superfines broyées à l'oeuf</b> → Lefranc		
<b>Dekorations-Kaseinfarben</b> → Schoenfeld		
<b>'Tempera für Dekorationsmalerei'</b> → Neisch		
<b>Dekorations-Temperafarben</b> → Schoenfeld		

COMPOSITION OF BINDING MEDIUM, ADDITIONAL INFORMATION	FIRST / LAST KNOWN MENTION	SELECTED BIBLIOGRAPHY	ARTISTS
'A composition of albumen-like and soap-like substances with emulsified fats'; dry paint to be coated with a wax/resin fixative (Anonymous 1893a)	1893	German patent DE71444, 11 November 1892; Chicago World Fair 1893, p. 82; see also the contribution by Pohlmann, in this volume	H. Louis; L. Müller-Breslau
Egg yolk, oil (Berger 1907e)	1906 / 1912	Berger 1907e; Pohlmann 2010b	C. Bössenroth; F.M. Bredt; C. Fehr; M.E. Giese; K. Härlin; H. Hammer; L. von Hofmann; K. Kayser-Eichberg; E. Kiesling; W. Klug; H. Kreysser; F. Kunz; M. Kuschel; S. Lipinsky; L. Neef; K. Otto; C. Palme; P. Renner; S. von Sallwürk; E. Thoma; H. Völkerling
Fibrin (blood albumen), additives; dry paint to be treated with a formaldehyde fixative	1913 / 1943	Austrian patent 63368, 31 December 1912; Anonymous 1913; Pohlmann 2010b; see also the contribution by Pohlmann (with bibliography), in this volume	A. Bachmann; E. Berger; C. Bössenroth; L. Dill, M. Feldbauer; L. Hohlwein; R. Kaiser, E. Kirchner, M. Liebermann; A. Münzer; F. v. Stuck; H. Urban
Egg, oil (' <i>Ei-Oeltempera</i> '). To be combined with two types of vehicles: ' <i>Malmittel I</i> ' (gum, oil) or ' <i>Malmittel II</i> ' (egg, oil) (Berger 1907e, p. 4)	1906 / 1912	Berger 1906c; Berger 1907c; Berger 1907d, p. 82; Berger 1907e, p. 4; Wenzel 1912, p. 162	S. von Sallwürk
Composition unknown. To be combined with three types of wax containing vehicles (' <i>Malmittel I</i> ') (TMM 1905)	1905 / 1912	Beltinger 2015, p. 46; see also the contribution by Pohlmann, in this volume	E. Berger, O. Brunnschweiler; H. Gattiker; F. Widmann; E. Württenberger

D – G

PRODUCT NAME	INVENTOR	COMPANY NAME
Tempera <b>De Maria</b>	Mario de Maria, called Marius Pictor (1853–1924)	Produced by the artist (Italy)
Tempera <b>Di Volo</b>	<b>Eligio Di Volo</b> (1880–1964)	Eligio Di Volo, Academy of Fine Arts, Florence
<b>Emulsionsfarbe</b> → Gundermann		
Philipp <b>Fleischer's</b> Meisterfarben → Schoenfeld		
Tempera <b>Fortuny</b>	Mariano Fortuny y Madrazo (1871–1949)	Mariano Fortuny, Venice
' <b>Friedlein's</b> che Emulsions-Tempera' / 'Friedleintempera'	Ernst Friedlein (1841–1919)	Ernst Friedlein, pharmacist, Würzburg
<b>Gee-Wee-Temperafarben</b> → Wagner		
' <b>Gerhardts</b> Kaseinfarben' → Schoenfeld		
' <b>Gödöllöer</b> Temperafarben'	Aladár Körösfoi-Kriesch (1863–1920), Gödöllő, Hungary	Chemische Fabrik Gebr. Müller, Budapest
Produced by <b>Gundermann</b> : Emulsionsfarbe (Schachinger c. 1910–1914, p. 18) / 'Wassertempera' (Berger 1907b, p. 59) (paint in tubes) Probably identical with: 'Gundermanns Temperafarben, Farbe Nr. I' (Berger 1907b, p. 59).	Franz Gundermann	Gundermann, Munich; Distribution: Schachinger, Munich
Rubensfarbe II / 'Öltempera' (Schachinger c. 1910–1914, p. 18). (paint in tubes) Probably identical with: 'Gundermanns Rubensfarben, Farbe Nr. II' (Berger 1907b, p. 59).	ditto	ditto
' <b>Haase &amp; Brandt-Tempera</b> '		Haase & Brandt, Berlin-Tegel

COMPOSITION OF BINDING MEDIUM, ADDITIONAL INFORMATION	FIRST / LAST KNOWN MENTION	SELECTED BIBLIOGRAPHY	ARTISTS
Vegetable glue and animal glue, mastic	1909 / 1924	Mazzanti 2007, p. 227; Di Raddo 2013, p. 121; see also the contribution by Baroni <i>et al.</i> , in this volume	G. Favai
'Based on egg'	1915, still in use	Rinaldi and Falcucci 2012; <a href="http://www.divolofirenze.com">http://www.divolofirenze.com</a> ; see also the contribution by Baroni <i>et al.</i> , in this volume	
Egg, glue	1935 / 1949	Rinaldi 2013; see also the contribution by Baroni <i>et al.</i> , in this volume	G. Cadarin; B. Sacchi; M. Pelliccioli (for restoration purposes)
Diverging information: gum arabic, castor oil (Berger 1897, p. 260) and: casein, oil (Eibner 1909, p. 271)	1893 / 1909	Munich 1893, pp. 43–44; Friedlein 1893a; Friedlein 1893b; Friedlein 1906, pp. 41, 83; Berger 1907d, p. 88; Eibner 1909, p. 271; Reinkowski-Häfner 2014, p. 363	
Egg, oil and resin	1911	Berger 1911	
Contains oils and resins; is to be combined with two types of vehicles ( <i>Malmittel</i> , see Schachinger c. 1910–1914, p. 18)	ca. 1900 / 1912	Berger 1905b; Berger 1907b; Berger 1907d, p. 83; Berger 1907e, p. 4; Wenzel 1912, p. 162; Schachinger c. 1910–1914, p. 18; Reinkowski-Häfner 2014, p. 365; Neugebauer 2016, pp. 160–161	F. von Stuck; L. von Zumbusch; R. von Seitz; H. von Herkomer
May contain oil ( <i>Öltemperafarbe</i> / oil tempera paint, see Schachinger c. 1910–1914, p. 18) and resin ( <i>Harzfarbe</i> / resin paint, see Berger 1907b, p. 59)	ca. 1900 / 1912	ditto	ditto
Egg, oil	1893 / 1912	Munich 1893, pp. 68, 76–77; Berger 1907d, p. 82; Berger 1907e, p. 4; Wenzel 1912, p. 162; Fischer <i>et al.</i> 2006, p. 54	A. von Jawlensky

## H – M

PRODUCT NAME	INVENTOR	COMPANY NAME
Produced by F. Herz & Co.: 'Herz'sche Temperafarben'		F. Herz & Co., Tempera- und Kaseinfarbenfabrik, Berlin
'Herz'sche Kaseinfarben'		ditto
'Lompeck'sche Tempera' / 'Lompeck'sche ächt italienische Temperafarbe' (not available in tubes, see Beltinger <i>et al.</i> 2015, p. 56)	Adalbert or Karl Lompeck (active 1845–1853)	ditto
'Jacobsen's Caseinfarben'	Richard Jacobsen	H.L.O. Fritze, Coloniestraße, Berlin N. (distributed by: Böhme & Recknagel, Akademiestrasse 17, Munich)
'Tempera Laurenti'	Cesare Laurenti (1854–1936)	Giorgi, Rovigo, Italy (1909) (distributed by: Antonio Laezza, Naples)
'Lechner's Oeltempera' → Schoenfeld		
Produced by <b>Lefranc &amp; Cie</b> : 'Couleurs "Tempera" Mates procédé Artigue' <sup>1</sup>		Lefranc & Cie, Paris
Couleurs super fines broyées à l'oeuf <sup>2</sup>	Jehan-Georges Vibert (1840–1902)	ditto
Tempera brillant Muzii (paint in tubes)	Alfonso Muzii, Florence (1856–1946)	ditto
'Lompeck'sche Tempera' → Herz & Co.		
'Tempera Grassa Maimeri'	Gianni Maimeri (1884–1951)	Maimeri, Milan
'Majolica colors' → Pereira		
'Mebert'sche Gouachefarben' / 'Universal-Gouache-Farben'	August Mebert, Dresden (1867–?, active 1895–1912)	August Mebert, Dekorationsmaler und Farbenfabrik, Dresden

1 Matt tempera paints by the Artigue process.

2 Superfine colours ground with egg.

COMPOSITION OF BINDING MEDIUM, ADDITIONAL INFORMATION	FIRST / LAST KNOWN MENTION	SELECTED BIBLIOGRAPHY	ARTISTS
unknown	1893 / 1895	Munich 1893, p. 38; Reinkowski-Häfner 1994, pp. 304–305	
Casein	1893 / 1895	Munich 1893, p. 38	
Egg yolk, linseed oil, vinegar, water	1892 / 1897	Reinkowski-Häfner 2014, p. 365; Beltinger et al. 2015, pp. 55–56, 61–62, 67	A.W. König ( <i>Nibelungen-Zyklus</i> in the arcades of the Potsdam Marmorpalais); C. Amiet
Casein	1879 / 1885	Schaller 1885, p. 38	E. J. Schaller (ceiling in <i>Gewandhaus</i> concert hall, Leipzig)
Animal glue, gum arabic, resin	1909 / 1936	Laurenti 1990, pp. 22–23, 81; Beltrami 2010, pp. 19, 26 (n. 51); see also the contribution by Baroni et al., in this volume	P. Fragiacomio; G. Talamini; L. Selvatico; E. Caser
unknown	1922	Lefranc 1922, p. 119	
unknown (probably egg and other components)	1897	Lefranc 1897; Neugebauer 2016, p. 189	
Gum arabic, oil, egg	1907 / 1912	Berger 1907d, p. 82; Berger 1907e, p. 4; Wenzel 1912, p. 162; Scotti 1986, p. 474; Huber 1995, p. 180; Marchese 2015, p. 56; see also the contribution by Baroni et al., in this volume	E. Munch; G. Pellizza da Volpedo; E. Longoni; V. Grubicy
Linseed oil, mastic, Tween (an anionic surfactant), triethanolamine, dry albumen and water	1920 / 1951	Maimeri c. 1930/edn 2010, pp. 46–47; see also the contribution by Baroni et al., in this volume	G. Maimeri (mainly used for conservation purposes)
unknown	1893	Munich 1893, pp. 46, 107	



## M – P

PRODUCT NAME	INVENTOR	COMPANY NAME
'Meibert'sche Kaseinfarben'	ditto	ditto
'Meibert'sche Temperafarben'	ditto	ditto
'Müller-Coburg-Medium'	C. Müller, Coburg (1858–1909)	
<b>Tempera brillant Muzii → Lefranc</b>		
Produced by <b>Neisch &amp; Co.:</b>  'Tempera für Dekorationsmalerei' <sup>3</sup>		Hermann Neisch & Co., Dresden
'Ei-Temperafarben' / 'Temperafarbe (Ei)' / 'Ei-Temperafarben Sorte 700' <sup>4</sup> (Neisch 1939) / 'Dresdener Temperafarben für Kunstmalerei von H. Neisch & Co., Dresden' <sup>5</sup> (paint in tubes)		ditto
'Neisch-Kaseintempera' / Kasein-Tempera (1939 called Sorte / Type 1400) (Neisch 1939) (paint in tubes)		ditto
'Neisch-Studentempera' / Flüssige Tempera und Studien-Temperafar- ben <sup>6</sup> (paint in tubes)		ditto
'Oel-Temperafarbe' / 'Öl-Tempera-Farben' / 'Öl-Tempera-Farben Sorte 1300' <sup>7</sup> (Neisch 1939) / 'Oeltempera (Marke Saxonia)' / 'Öl-Temperafarben (Schutzmarke Saxonia) von H. Neisch & Co., Dresden' <sup>8</sup> (paint in tubes)		ditto
<b>Neue Temperafarben → Schoenfeld</b>		
'Oel-Temperafarbe' → Neisch		
<b>Pelikan-Temperafarben → Wagner</b>		

3 Tempera for decorative painting.

4 Egg tempera paints, Type 700.

5 Egg tempera for fine art painting from  
Dresden, by H. Neisch & Co., Dresden.

6 Neisch's Tempera for Studies / liquid  
tempera and tempera for studies.

7 Oil Tempera, Type 1300.

8 Oil Tempera (brand Saxonia) by  
H. Neisch & Co., Dresden.

COMPOSITION OF BINDING MEDIUM, ADDITIONAL INFORMATION	FIRST / LAST KNOWN MENTION	SELECTED BIBLIOGRAPHY	ARTISTS
Casein	1893	Munich 1893, pp. 46, 107	
unknown	1893	Munich 1893, pp. 89, 107	
Gum arabic, oil	1906 / 1907	Berger 1906b, p. 54; Berger 1907a, pp. 36, 39; Berger 1907c; Berger 1907e, p. 4	
unknown	1889	Neisch 1889; Reinkowski-Häfner 1994, p. 304; Reinkowski-Häfner 2014, p. 366	
Egg yolk	1875 / 1943	Berger 1907d, p. 82; Schachinger c. 1910–1914, p. 16; Berger 1907e, p. 4; Schneider 1921; Wehlte 1931, p. 77, Figs 5–7; Neisch 1939, p. 113; Dagron 1998, p. 70; Reinkowski-Häfner 1994, p. 304; Reinkowski-Häfner 2014, p. 366	O. Dix; W. Kandinsky; S. Schneider; K. Wehlte
Casein	1907 / 1931	Berger 1907d, p. 83; Berger 1907e, p. 4; Wehlte 1931, p. 77; Neisch 1939, p. 113; Fischer <i>et al.</i> 2006, p. 54; Reinkowski-Häfner 2014, p. 366	
Gum arabic, oil	1931	Wehlte 1931, p. 77; Schmincke 1935, p. 30	
Egg, oil	1906 / 1931	Berger 1907d, p. 82; Berger 1907e, p. 4; Schachinger c. 1910–1914, p. 17; Sallwürk 1922, p. 44; Wehlte 1931, p. 77; Neisch 1939, p. 113; Reinkowski-Häfner 2014, p. 366	

P

PRODUCT NAME	INVENTOR	COMPANY NAME
Invented by <b>Pereira</b> (various manufacturers):  'Majolica colors' / 'Majolikafarbe' (paint in tubes)	Alfons von Pereira-Arnstein (1845–1931)	1890 (very briefly): Carl Kreul, Forchheim 1890: J. G. Müller & Co., Stuttgart
'Tempera colors' / 'Temperafarbe' (paint in tubes)	ditto	1890 (very briefly): Carl Kreul, Forchheim 1890: J.G. Müller & Co., Stuttgart 1909: Kaspar u. Dr Vogl, Vienna
Vehicles for painting with 'Majolica colors' and 'Tempera colors':  'Tempera mixing fluid (No. 1)' / 'Malmittel' / 'einfaches Malmittel' / 'Temperamalmittel' (binding medium only)  'Tempera siccatif (No. 2)' / 'Tempera-Siccativ' / 'Siccativ' / 'Siccativ Pereira' (binding medium only)	ditto  ditto	ditto  ditto
'Resin colors' / 'Harzfarbe' / 'Pereira-Harzfarbe' / 'Harzmedium-Farbe' / 'Firnifarbe'	ditto	ditto
Vehicles for painting with 'Resin colors':  'Tempera resin medium (No. 3)' / 'Harzmedium' / 'Tempera-Harzmedi- um' / 'Kirschharzmedium' / 'Tempera- medium' (binding medium only)  Resin medium (No. 110)' / 'Harzfarben-Malmittel' / 'Harzmalmittel' / 'Malmittel für Harzfarben' (binding medium only)	ditto  ditto	ditto  ditto
'Mediumfarbe' / 'Medium-Temperafarbe' (paint in tubes)	ditto	1897: J.G. Müller & Co., Stuttgart 1909: Kaspar u. Dr. Vogl, Vienna 1939: Kaspar & Co., Vienna

COMPOSITION OF BINDING MEDIUM, ADDITIONAL INFORMATION	FIRST / LAST KNOWN MENTION	SELECTED BIBLIOGRAPHY	ARTISTS
Glycerine, honey, hide glue, starch, phenol. To be combined with two types of vehicle: 'Tempera mixing fluid (No. 1)' (see below) or: 'Tempera siccatif (No. 2)' (see below)	1890 / mid-1890s	See the contribution by Beltinger, in this volume	Circa 170 artists known to have used Pereira paints have been identified: see the contribution by Beltinger, in this volume, Table 4
Glycerine, honey, gum, hide glue, starch, phenol. To be combined with two types of vehicle: 'Tempera mixing fluid (No. 1)' (see below) or: 'Tempera siccatif (No. 2)' (see below)	1890 / 1912	ditto	ditto
Sturgeon glue, water, vinegar, phenol, an essential oil	1891 / 1909	ditto	ditto
Goatskin glue, parchment glue, water, vinegar, phenol, an essential oil	1891 / 1909	ditto	ditto
Copaiba balsam, resins, essential oils. To be combined with two types of vehicle: 'Tempera resin medium (No. 3)' (see below) or: 'Resin medium (No. 110)' (see below)	1891 / 1909	ditto	ditto
Cherry gum, almond gum, resins	1891 / 1909	ditto	ditto
Copaiba balsam, turpentine, resins, essential oils	1891 / 1909	ditto	ditto
Cherry gum, linseed oil, size, honey	1897 / 1939	ditto	ditto

P – S

PRODUCT NAME	INVENTOR	COMPANY NAME
'Pidoll'sche Ei-Tempera-Farbe' → Schoenfeld		
<b>Reform</b> -Schulfarben → Schoenfeld		
'Resin colors' → Pereira		
<b>Rubensfarbe II</b> → Gundermann		
Marke <b>Saxonia</b> → Neisch, 'Oel-Temperafarbe'		
Produced by <b>Schmincke &amp; Co.:</b>		
'Casein-Bindemittel (reine Caseinlösung) <sup>9</sup> (casein vehicle, in bottles)		Hermann Schmincke & Co., Düsseldorf
'Feinst geriebene Künstler-Temperafarben Sorte 12' (Schmincke 1912) <sup>10</sup> / 'Feinst geriebene Künstler-Temperafarben für künstlerische Arbeiten der dekorativen Malerei wie für feinste Kleinmalerei Sorte 1200' (Schmincke c. 1898) <sup>11</sup> / 'Feinst geriebene Temperafarben für Kunstmalerei von H. Schmincke & Co.' (Schachinger c. 1910–1914) (paint in tubes)		ditto
'Fein geriebene Temperafarben Sorte 16 für alle künstlerischen Zwecke' <sup>12</sup> (Schmincke 1910) / 'Decorations-Temperafarben Sorte 1600 für einfache dekorative Arbeiten, insbesondere für Decken- und Wandmalerei von Innenräumen' <sup>13</sup> (Schmincke c. 1898) (paint in tubes)		ditto
'Schmincke Tempera-Bindemittel MK' / 'Temperabindemittel MK (Ei-Tempera) <sup>14</sup>		ditto
'Schmincke Tempera-Bindemittel HD' / 'Temperabindemittel HD (Harzemulsions-Tempera, prima, secunda) <sup>15</sup> (binding medium only, in tubes)		

9 Casein medium (pure casein solution).

10 Finely ground tempera for artists, Type 12.

11 Finely ground tempera for artistic works of decorative painting and for the finest miniature painting, Type 1200.

12 Finely ground tempera paints, Type 16, for all purposes.

13 Tempera for decorative painting, Type 1600, for simple decorative works, especially for ceiling and wall painting of interiors.

14 Schmincke's Tempera Binding Medium MK (Egg Tempera)

15 Schmincke's Tempera Binding Medium HD (Resin Emulsion Tempera), prima, secunda. The meaning of the latter specifications is not clear.

COMPOSITION OF BINDING MEDIUM, ADDITIONAL INFORMATION	FIRST / LAST KNOWN MENTION	SELECTED BIBLIOGRAPHY	ARTISTS
unknown		Schmincke c. 1898, pp. 14–17; Reinkowski-Häfner 2014, p. 366	
Animal glue, starch or cellulose paste	1907 / 1912	Berger 1907d, p. 82; Berger 1907e, p. 4; Schmincke 1910, p. 65; Schmincke 1912, pp. 64–66; Schmincke c. 1898, pp. 22– 25, 28; Wenzel 1912, p. 162; Schachinger c. 1910–1914, p. 15	
Animal glue, starch or cellulose paste		Schmincke 1910, p. 75; Schmincke c. 1898, pp. 22, 26–27, 28; Reinkowski- Häfner 2014, p. 366	
Egg (' <i>Ei-Tempera</i> ') and resin (or gum arabic?) emulsion (' <i>Harzemulsion</i> ')  Gum arabic, oil (' <i>Harz-Emulsion</i> ')	1907 / 1912	Berger 1907d, p. 82; Berger 1907e, p. 4; Wenzel 1912, p. 162; Schmincke c. 1898, pp. 28–29; Reinkowski-Häfner 2014, pp. 370–371	

## S

PRODUCT NAME	INVENTOR	COMPANY NAME
Schul-Temperafarben Sorte 25 <sup>16</sup>		ditto
Produced by Dr Franz Schoenfeld: Ariston-Tempera-Farben (paint in tubes)		Dr Franz Schoenfeld & Co., Düsseldorf
Dekorations-Kaseinfarben <sup>17</sup>		ditto
Dekorations-Temperafarben (paint in tubes)		ditto
Professor Philipp Fleischer's Meisterfarben der Renaissance <sup>18</sup> Farbe I (like tempera paint) and Farbe II (like oil paint) (paint in tubes)	Philipp Fleischer (1850–1927)	ditto
Vehicles for painting with 'Professor Philipp Fleischer's Meisterfarben der Renaissance':  Malmittel A, B, C, BB (weak) and BB (strong) for short or long drying time		
Gerhardt'sche Caseinfarben / Gerhardt'sche Marmor-Casein-Farben <sup>20</sup> (Schoenfeld 1903/1904) / Gerhardts Caseinfarben (Richard 1904) (paint in tubes)	Fritz (Friedrich Victor) Gerhardt (1828–1921)	Two companies are mentioned as producers of this paint: Dr Franz Schoenfeld & Co., Düsseldorf (first known mention in connection with this product in: Daelen 1888), and: Anton Richard, Düsseldorf (first known mention in connection with this product in: Munich 1893)
Casein-Bindemittel (A, B, C, H, Q, HQ, S) <sup>21</sup> (Schoenfeld 1903/1904; Richard 1904) (binding medium only, in tins)		Again, two companies are mentioned as producers of this paint medium: Dr Franz Schoenfeld & Co., Düsseldorf, and: Anton Richard, Düsseldorf
Casein-Bindemittel (R, W, P) (Richard 1904) (binding medium only, probably in tins)		

16 School tempera, Type 25.

17 Casein paint for decorative painting.

18 Professor Philipp Fleischer's Paint of the Renaissance Masters.

19 Letter written by Philipp Fleischer in 1901 to the company Richard Wurm in München recommending the mixture of Wurm's Temperafarbe with Fleischer's 'Tempera-Malmittel' (Wurm ANA 416).

20 Gerhardt's Casein Paints / Gehardt's Marble Casein Paints.

21 Casein Binding Medium (A, B, C, H, Q, HQ, S).

COMPOSITION OF BINDING MEDIUM, ADDITIONAL INFORMATION	FIRST / LAST KNOWN MENTION	SELECTED BIBLIOGRAPHY	ARTISTS
unknown		Schmincke 1935, p. 30; Reinkowski-Häfner 2014, p. 366	
unknown	1906 / 1910	Schoenfeld 1906/1907, p. 95; Schoenfeld 1909/1910, p. 67	O. Hülcker
unknown (probably casein and other components)		Schoenfeld 1906/1907, p. 88	
unknown	1903 / 1910	Schoenfeld 1903/1904, pp. 104–105; Schoenfeld 1906/1907, pp. 100–101; Schoenfeld 1909/1910, pp. 72–73.	
unknown	1901 / 1910	Wurm ANA 416; <sup>19</sup> Keim 1903, pp. 417– 420; Berger 1906a, p. 23; Schoenfeld 1906/1907, pp. 80–82; Schoenfeld 1909/1910, pp. 55–59; Reinkowski- Häfner 2014, pp. 371–373	F.A. von Kaulbach
Unknown			
Casein and borax or lime, wax soap, mastic and amber, oil soap, caoutchouc	1888 / 1928	Bley 1886–1887; Daelen 1888; Schoenfeld 1891, p. 21; Munich 1893, p. 112; Schoenfeld 1902, pp. 10–11; Schoenfeld 1903/1904, pp. 85–89; Richard 1904, pp. 12–15; Schoenfeld 1906/1907, pp. 85–89; Berger 1907d, p. 83; Berger 1907e, p. 4; Scherer 1920, pp. 137–138; Reinkowski-Häfner 2014, pp. 363–364	A. Egger-Lienz; F. Geselschap; F. Hodler; P. Janssen, E. von Gebhardt, E. Roeber
		Schoenfeld 1903/1904, p. 519; Richard 1904, pp. 12–15, 21	



## S

PRODUCT NAME	INVENTOR	COMPANY NAME
'Dr Schoenfeld's Kaseinfarbe für Innen-Dekoration und monumentale Malerei' <sup>22</sup>		Dr Franz Schoenfeld & Co., Düsseldorf
'Lechner's Oeltempera' / 'Lechner'sche Öltempera-Farben' <sup>23</sup> (paint in tubes)	Ferdinand Lechner (Berlin)	ditto
Neue Temperafarben / 'Schoenfeld-Tempera' (paint in tubes)		ditto
Reform-Schulfarben (Temperafarben) <sup>24</sup> (paint in tubes)		ditto
'Verbesserte Ei-Temperafarbe' <sup>25</sup> (Schoenfeld 1902; Schoenfeld 1903/1904; Schoenfeld 1906/1907) / 'Pidoll'sche Ei-Tempera-Farbe' <sup>26</sup> (Schoenfeld 1909/1910) (paint in tubes)	Karl von Pidoll (1847–1901)	ditto
<b>Schul-Temperafarben Sorte 25 → Schmincke</b>		
Distributed by <b>Sennelier</b> , Paris:  Couleurs à l'oeuf tempera <sup>27</sup> (paint in tubes)		Sennelier, Paris
<b>Sorte 12</b> <b>Sorte 1200</b> → Schmincke, 'Feinst geriebene Künstlerfarben'		
<b>Sorte 16</b> <b>Sorte 1600</b> → Schmincke, 'Fein geriebene Temperafarben'		
<b>Sorte 25</b> → Schmincke, Schul-Temperafarben		
<b>Sorte 150</b> → Wagner, Pelikan-Temperafarben		
<b>Sorte 160</b> → Wagner, Gee-Wee-Temperafarben		
<b>Sorte 700</b> → Neisch, 'Temperafarbe (Ei)'		
<b>Sorte 1300</b> → Neisch, 'Oel-Temperafarbe'		

22 Dr Schoenfeld's casein paint for interior decoration and monumental painting.

23 Lechner's Oil Tempera.

24 Reform Paints for Schools (tempera).

25 Improved Egg Tempera.

26 Pidoll's Egg Tempera.

27 Egg tempera.

COMPOSITION OF BINDING MEDIUM, ADDITIONAL INFORMATION	FIRST / LAST KNOWN MENTION	SELECTED BIBLIOGRAPHY	ARTISTS
unknown	1910	Schoenfeld 1909/10, pp. 60–62	
Egg and oil	1902 / 1912	Schoenfeld 1902, pp. 7, 510; Schoenfeld 1903/1904, pp. 94–97; Schoenfeld 1906/1907, pp.92–95; Berger 1907d, p. 82; Berger 1907e, p. 4; Schoenfeld 1909/1910, pp. 64–67; Jaennicke 1909, p. 34	
unknown	1889 / 1893	Schoenfeld 1889; Schoenfeld 1891, pp. 85–86; Munich 1893, p. 44;	
unknown	1906/07	Schoenfeld 1906/1907, pp. 231–233	F. von Lenbach; A. Volkmann
Wax soap and egg yolk ('wax/pot-ash-emulsion with added egg yolk')	1892 / 1909	Pidoll 1893; Schoenfeld 1902, pp. 7–8; Schoenfeld 1903/1904, pp. 98–101; Schoenfeld 1906/1907, pp. 96–98; Berger 1907d, p. 82; Berger 1907e, p. 4; Schoenfeld 1909/1910, pp. 68–70; Jaennicke 1909, p. 34; Doerner edn 1928, p. 140; Reinkowski-Häfner 2014, pp. 371–373	
unknown (probably egg and other components)	unknown	Dagron 1998, p. 70	W. Kandinsky

S – W

PRODUCT NAME	INVENTOR	COMPANY NAME
<b>Syntonosfarben</b>	Wilhelm Beckmann (1871–?)	L. Auerbach & Co., Fürth
<b>'Tempera colors' → Pereira</b>		
<b>Tempera-Deckfarben → Wagner</b>		
<b>'Urbans Harz-Tempera'<sup>29</sup></b>	Hermann Urban, Bad Aibling (1866–1948)	Karl Fiedler, Munich (1931 bought by H. Schmincke, see: Schmincke 1992)
Produced by <b>Wagner</b> :  Gee-Wee-Temperafarben Sorte 160 für Studien <sup>30</sup> (paint in tubes)		Günther Wagner, Hannover and Vienna
Pelikan-Temperafarben Sorte 150 für Künstler <sup>31</sup> To be combined with: Pelikan Tempera-Malmittel, Pelikan Tempera-Firnis, Pelikan Tempera-Fixatif [sic]		ditto
Tempera-Deckfarben von Günther Wagner (paint in tubes)		ditto
<b>Weimar-Farbe / Weimarfarbe</b> (paint in tubes)  Transformable into tempera by the addition of the vehicle 'Feigenmilch' ('Fig milk')	Felix Hasse, Weimar (1886–?)	Laboratorium der Grossherzoglichen Sächsischen Kunstschule zu Weimar (Laboratory of the Saxon-Grand Ducal Art School in Weimar) (later: Weimarfarbe GmbH, Weimar)
<b>Wiener</b> Tempera (paint in tubes)		Spitzauer & Eder, Vienna
Temperafarbe / <b>'Wurm-Tempera'</b> (paint in tubes)  To be combined with Malmittel (vehicle for painting with Temperafarbe)		Richard Wurm, Farben-Maltuch- und Malrequisiten-fabrik, Munich

28 Undated historic tube paints (probably produced before 1903) from the estate of James McNeill Whistler (1834–1903), today located in the Library of Congress, Washington D.C. (USA). Analyses were conducted at the Doerner Institut, Munich (Neugebauer 2016, p. 329).

29 Urban's Resin Tempera.

30 Gee-Wee Tempera Paints Type 160 for studies.

31 Pelikan Tempera Paints Type 150 for artists

32 Analyses of undated historic tube paints from the estate of Edvard Munch, Munch Museet Oslo, conducted at the Doerner Institut, Munich (Neugebauer 2016, p. 158).

33 Orders placed by E.J. Schindler (in 1877) and Paul von Ravenstein (in 1917) with Richard Wurm Company Munich (Wurm ANA 416).

COMPOSITION OF BINDING MEDIUM, ADDITIONAL INFORMATION	FIRST / LAST KNOWN MENTION	SELECTED BIBLIOGRAPHY	ARTISTS
Water, gum arabic, boiled linseed oil, glycerine, wax, tallow, green soap (German patent DE78793, 13 June 1893). Analysis of historic tube paint: <sup>28</sup> gum arabic, castor oil, drying oil, glycerine, beeswax, animal fat (Neugebauer 2016, p. 329)	1893 / 1918	Munich 1893, p. 78; German patent DE78793, 13 June 1893; <i>TMM</i> 1895; Keim 1903, pp. 130, 318–326; Eibner 1909, pp. 268–269; Reinkowski-Häfner 1994, p. 304; Reinkowski-Häfner 2014, p. 373; Neugebauer 2016, pp. 321–340	F. von Stuck
unknown	1909	Berger 1909c; Reinkowski-Häfner 2014, pp. 373–374	
Egg yolk, 'emulsion paint'	1914	Völker 1914, p. 5	
Egg yolk, 'emulsion paint'	1906 / 1915	Boeck 1915; Berger 1907d, p. 82; Berger 1907e, p. 4; Wagner 1913, p. 79	
Egg, oil	1893	Munich 1893, p. 48	
Oil/resin paint with addition of beeswax  Distilled water; beeswax, medical soap, oil of turpentine	1907 / 1945	Pohlmann 2012b, pp. 77–78; Reinkowski-Häfner 2014, pp. 375–376; Neugebauer 2016, pp. 204–205	L. Feininger; H. Olde; W. Kandinsky; S. Schneider
Oil, egg	1907 / 1912	Berger 1907d, p. 83; Berger 1907e, p. 4; Wenzel 1912, p. 162.	
Analysis of historical tube paints: <sup>32</sup> different types of drying oils, Japan wax, spike oil and components that probably originate from soaps (Neugebauer 2016, p. 158)  Probably: soft soap, alcohol and spike oil (Neugebauer 2016, pp. 158, 159)	1877 / 1917, probably longer <sup>33</sup>	Munich 1893, p. 75; Wurm c. 1906/1907; Wurm ANA 416; Reinkowski-Häfner 1994, p. 304; Kruppa 2011, pp. 30–37, 55–59, 98–100; Berberich 2012; Reinkowski-Häfner 2014, pp. 376–378; Neugebauer 2016, pp. 158–160; see also the contribution by Neugebauer, in this volume	O. Modersohn; P. Modersohn-Becker; F. Overbeck (other see Berberich 2012)