

# COBRA ARTISTS OILS

## SOLVENT FREE OIL PAINTING

MIX &  
CLEAN WITH  
WATER



Why paint solvent free? Artists are looking to this growing trend for many reasons. Some have specific health concerns while others are simply looking for convenience.

Whatever your motivation, Cobra Artist Water Mixable Oils offer a solution that enables today's oil painters the ability to enjoy the rich colors and traditional working properties that they have come to love about the medium, without the need of harmful solvents.



# Royal Talens



The history of Royal Talens goes back to 1899. In that year Marten Talens founded the "Dutch Factory for Paints, Lacquers and Inks" in the Dutch city of Apeldoorn. As a family business it concerned itself initially with the production of office supplies and inks.

Queen Wilhelmina was a great Talens fan. She used it on a daily basis. In addition to being queen, Wilhelmina was an artist who had passion for her hobby. In 1949 she made Talens Royal by honoring the company with this Royal designation, for producing and developing some of the world's best paint and artists' materials including well-known brands Rembrandt and Van Gogh, but also new innovations such as Cobra.

In 2015 Royal Talens North America was founded. Based in Northampton, Massachusetts, a small college town brimming with creative energy was the perfect location to open our North American Affiliate.

For more information visit:

[www.royaltalens.com](http://www.royaltalens.com)

[www.royaltalensnorthamerica.com](http://www.royaltalensnorthamerica.com)



# Contents

- In the Beginning
- Pigments
- What is a Binder
- The Drying Oils
- Types of Oil Paints
- What is an Emulsifier
- Cobra Auxiliaries
- Myths & Tips
- Reading the Tube
- Color Chart
- Resources



# History

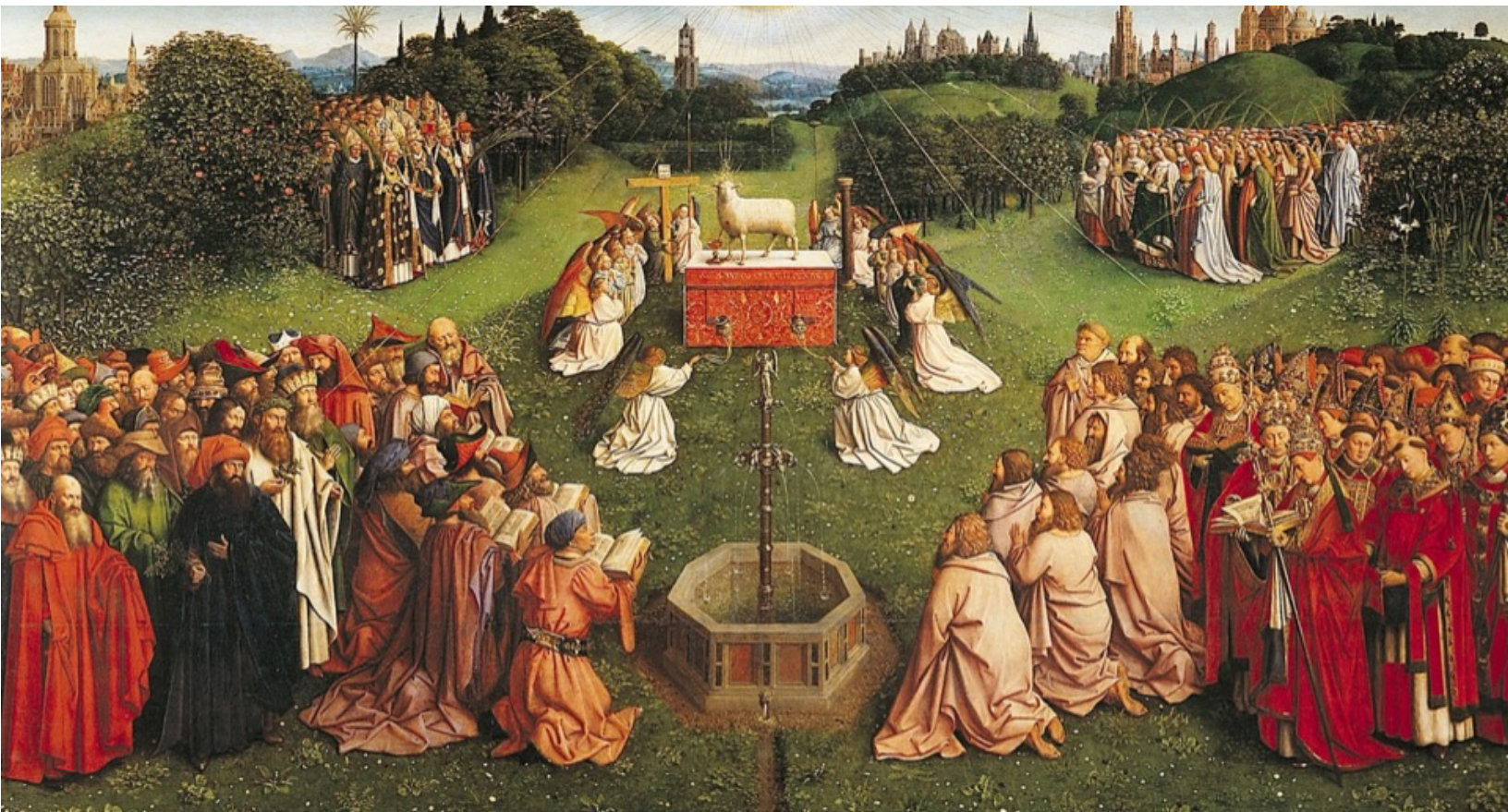
The Oldest known oil paintings were discovered in the Bamiyan region of Afghanistan in a series of caves in 2001. They were Buddhist murals using paints made with a combination of walnut & poppy-seed oil dating from 7th century AD.



Oils became popular in 15th century Europe and played a significant role in the Renaissance. Oils replaced tempera and fresco as the primary medium due to its tonal range, intense color and working drying time. Their popularity was also related to an interest in creating naturalistic detail. (below: *The Ghent Altarpiece, Central Panel, Jan and Hubert van Eyck, 1432. Bavo's Cathedral, Ghent, Belgium.*)



Paint Tubes were invented in 1841 by John Rand, an American artist. Many credit the invention with contributing to Impressionism and Plein Air painting.



# What is a Pigment?



A pigment, simply put, is a material that reflects light. Pigments selectively reflect and absorb certain wavelengths of visible light giving them a specific perceived color.

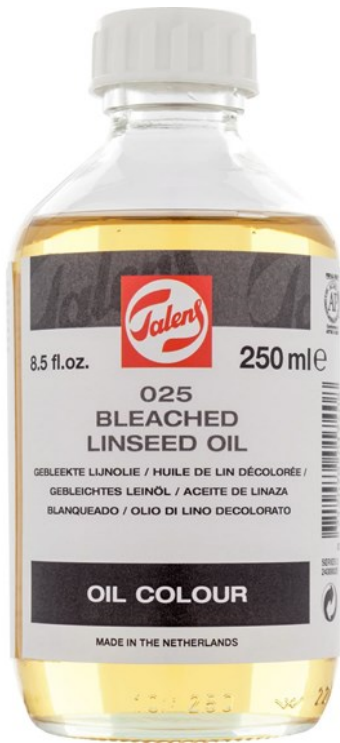
There are three categories of pigments based on origin. **Organic, Inorganic and Synthetic** (think animal, mineral, chemical.)

Organic pigments are carbon based, from plants or animals. Inorganic pigments are ground up minerals. Synthetic pigments begin as being either organic or inorganic and are then chemically altered by adding ingredients or heating.

Today pigments are standardized by ISO (International Organization for Standardization) with the use of the Color Index

*(pictured right from top to bottom: cochineal beetle, lapis lazuli, oxidized lead coils)*





# What is a Binder?

In general terms, binders are liquid substances that harden through a chemical or physical process and bind the particles (in this case pigments). In oils, the most commonly used binder is linseed oil.

The primary functions of a binder are to suspend and adhere. **Suspension** being the term used when a non-dissolvable coloring agent is suspended within a binder. **Adhesion** referring to the ability of the binder to adhere to the ground or surface to which it is applied.

The primary working properties of a material are determined by the binder.



# The Drying Oils

A drying oil is one that hardens (or dries) to a hard, strong and durable film. The oil hardens through a chemical reaction referred to as oxidation. A drying process defined by the absorption of oxygen vs the evaporation of a solvent. Drying oils commonly found in the manufacture of oil paints include:



**Linseed** oil is pressed from the seeds of the flax plant. It dries relatively fast (in comparison to other drying oils), and forms a very strong and enduring paint film, but it can yellow over time.



**Walnut** oil is also a fast-drying oil, and it is non-yellowing. It has good endurance and can be used in place of a solvent for mixing and cleaning brushes. It can rot over time and should be refrigerated.



**Safflower** oil is a non-yellowing oil and is often used in the manufacture of whites. It has a longer drying time and is less durable than linseed or walnut oil.



**Poppy-seed** oil has the benefit of non-yellowing and is used in whites and varnishes. It does dry much slower than linseed and creates a less durable paint film.



# Types of Oil Paints

**Traditional Oils** are those using a drying oil such as Linseed as a binder. They may also include solvents and other extenders and preservatives. Formulations vary from manufacturer to manufacturer.

**Alkyd Resin** is produced by a reaction of natural oil with a poly-functional alcohol and poly-basic acid (originally named "alcid"). Alkyds were developed by General Electric in the 1920's as a coating for electrical wires. Eventually they were produced as an all-around oil painting medium with the primary benefit of being fast drying. They are commonly found in many commercial paint products. As a binder alkyd resin cannot hold as much pigment as linseed oil. (alkyd resin crystals below)

**Water Miscible Oils** are TRADITIONAL oil paint in which the binder has been modified or an emulsifier has been added that allows the paint to be mixed with water. Cobra is the later.





# What is an Emulsifier

**Emulsifiers** on a molecular level consist of a water-loving hydrophilic head and an oil-loving lipophilic tail. Philic is derived from the ancient Greek word philos – meaning to love.

A common emulsifier used in painting is egg yolk, which contains lecithin. Another common source of lecithin is soy. You'll find both in many food products.

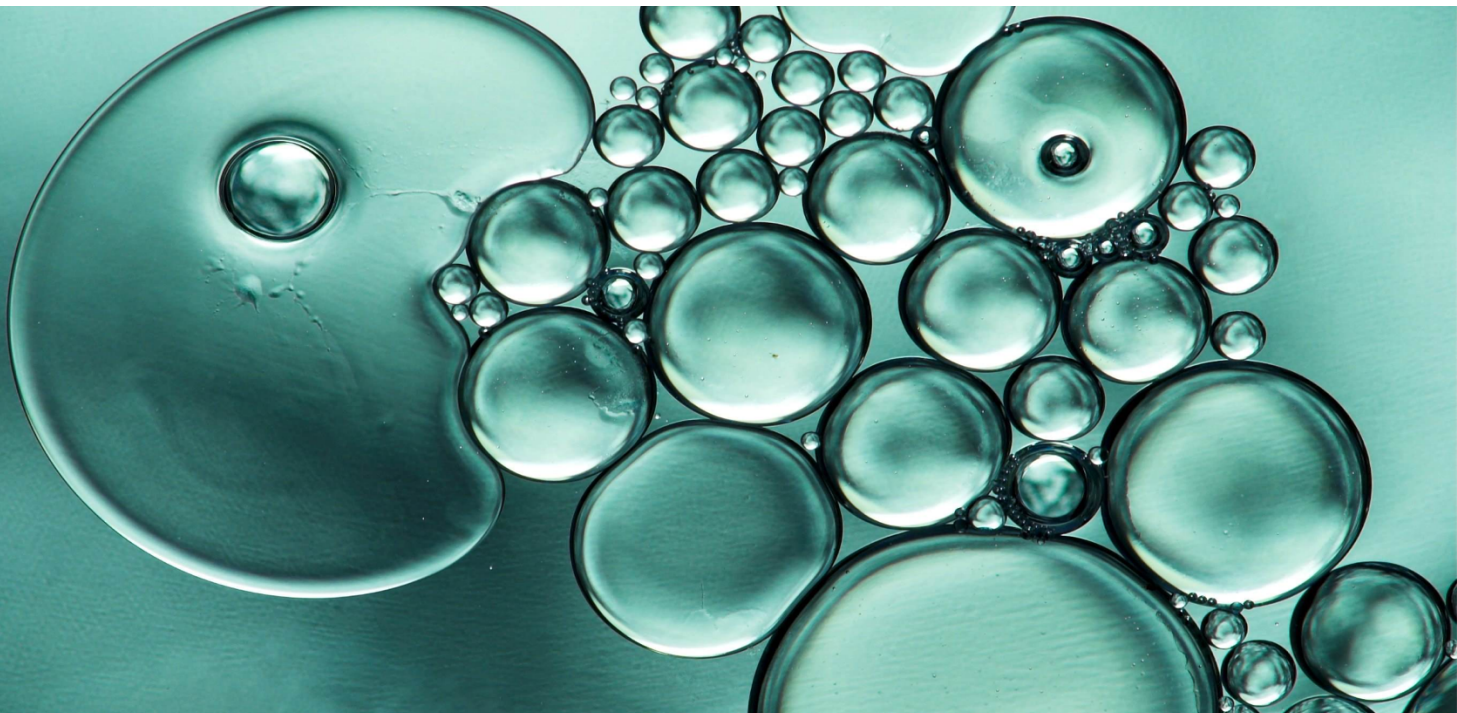
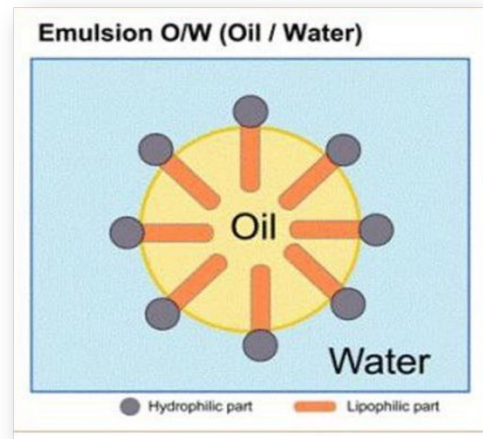
Lecithin is a natural occurring fat in plants and animals that are an amphi-philic being both oil and water loving.

The use of emulsifiers in painting goes back even further than the use of oils.



Traditional egg tempera consists of dry pigments, egg yolk and water. The egg yolk acts as an emulsifier to create the vehicle binder for the paint and allows it to be mixed with water.

Before tubes, any painters included emulsifiers in their paint making process to enhance the working properties of the paint.



# Cobra Auxiliaries

Cobra auxiliaries are used to **adapt the consistency, transparency, drying time and finish** of your painting. You can mix them directly with the paint on your palette or dip your brush into them as you go. Moderation is key to success!

They include:

- **Painting Medium 091**
- **Glazing Medium 092**
- **Quick-Dry Medium 093**
- **Painting Paste 087**
- **Spray Varnishes**



# Cobra Auxiliaries

## Painting Medium 091

- Increases the gloss and transparency
- Makes the paint more fluid
- No influence on drying time of the paint
- Increases the durability of the paint film
- Can be thinned with water
- Yellows slightly



## Glazing Medium 092

- Increases the gloss and transparency
- **Makes the paint more fluid and self-leveling**
- No influence on drying time of the paint
- Increases the durability of the paint film
- Can be thinned with water
- Yellows slightly



## Quick-Dry Medium 093

- **Shortens the drying time**
- Can be thinned with water
- Increases the gloss and transparency
- Makes the paint more fluid
- **Increases the durability of the paint film**
- **Can be thinned with water**
- **Yellows slightly**



## Painting Paste 087

- **Retains viscosity of paint**
- Increases the transparency
- Degree of gloss is maintained
- No influence on the drying time
- Increases the durability of the paint film
- Can be thinned with water
- Yellows slightly



Note: All will make your paint fatter (increase the oil content of the paint.)

# Myths & Tips

## Myths

Water miscible oils...

- ...contain water. **False**
- ...are not a true oil paint. **False**
- ...dry faster than traditional oils. **False**
- ...work like acrylics. **False**
- ...can be mixed with acrylics. **False**
- ...are not archival. **False**
- ...have less pigment. **False**



## Tips

- When using mediums, moderation is best.
- You can combine Cobra oils and auxiliaries with traditional oils (if you maintain a 2:1 ratio, the paint will retain its water miscibility).
- Don't exceed 1:1 ratio of paint with water to maintain paint film integrity.



# Reading the Tube

- Brand
- Color Name
- Color Number
- Opacity
- Lightfastness
- Color Index
- Approved product Seal (ACMI = The Art and Creative Materials Institute)
- Other symbols can include CA Prop 65 for cadmiums and cobalt

## opacity

- = transparent (25 colours)
- ▨ = semi-transparent (20 colours)
- ▩ = semi-opaque (35 colours)
- = opaque (40 colours)

## degree of lightfastness

- +++ = at least 100 years lightfast under museum conditions) (all 120 colours)
- ++ = 25 - 100 years lightfast under museum conditions
- +
- 0 = 0 - 10 years lightfast under museum conditions



# colour chart Cobra Artist water mixable oil colour

Zinc white +++ 104 ◻ 1 ▯ PW7	Titanium white +++ 105 ◻ 1 ▯ PW6	Titanium buff +++ 291 ■ 3 ▯ PW7/PY42/PBk9	Cadm. yellow lemon +++ 207 ■ 4 PY35	Perm. lemon yellow +++ 254 ◻ 2 ▯ PY184	Primary yellow +++ 275 ■ 2 ▯ PY184/PY154	Transp. yellow M +++ 272 ◻ 3 PY128	Perm. yellow L +++ 283 ■ 2 ▯ PY154	Cadm. yellow M +++ 271 ■ 4 PY35
Perm. yellow M +++ 284 ■ 2 PY154	Indian yellow +++ 244 ◻ 3 PY110	Naples yellow L +++ 222 ■ 3 PW7/PY154/PBk9	Napels yellow D +++ 223 ■ 3 PW7/PY154/PBk24	Perm. yellow D +++ 285 ◻ 2 ▯ PY154/P043	Cadmium yellow D +++ 210 ■ 4 PY35/P020	Cadmium orange +++ 211 ■ 4 P020	Permanent orange +++ 266 ■ 2 ▯ PY154/P043	Naples yellow red +++ 224 ■ 3 PW7/P043/PBk24
Vermilion +++ 311 ◻ 2 ▯ P043	Cadmium red L +++ 303 ■ 4 PR108	Pyrrrole red light +++ 340 ■ 3 PR254/P043	Transp. red medium +++ 317 ◻ 3 PR207	Cadm. red medium +++ 314 ■ 4 PR108	Pyrrrole red +++ 315 ■ 3 ▯ PR254	Pyrrrole red deep +++ 345 ◻ 3 ▯ PR254/PR264	Cadmium red deep +++ 306 ■ 4 PR108	Carmine +++ 318 ■ 3 PR176
Madder lake +++ 389 ◻ 2 ▯ PR264	Primary magenta +++ 369 ◻ 3 ▯ PV19	Persian rose +++ 330 ■ 2 PW7/PR202	Perm. red violet L +++ 577 ■ 3 ▯ PR202/PW7	Perm. red violet +++ 567 ◻ 3 ▯ PV23/PR122	Violet +++ 536 ■ 3 ▯ PW7/PR122/PV23	Perm. blue violet +++ 568 ◻ 3 PV23/PR122	Blue violet +++ 548 ■ 3 PW7/PB29/PV23	Greyish blue +++ 562 ■ 2 PW7/PB29/PBk9
Ultramarine +++ 504 ◻ 2 ▯ PB29	Cobalt blue +++ 511 ■ 4 PB28	Cobalt blue (ultram.) +++ 512 ◻ 3 ▯ PB29/PB15	King's blue +++ 517 ■ 3 ▯ PW7/PB29	Prussian blue +++ 508 ◻ 3 PB27	Cerulean blue +++ 534 ■ 4 PB35	Cerulean blue (phthalo) +++ 535 ■ 2 PB15/PW7	Phthalo blue +++ 570 ◻ 3 ▯ PB15	Primary cyan +++ 572 ■ 2 ▯ PB15/PW7
Turquoise blue +++ 522 ■ 3 ▯ PW7/PB15/PG7	Phthalo turq. blue +++ 565 ◻ 3 PB15/PG7	Yellowish green +++ 617 ■ 3 PG7/PY154	Permanent green L +++ 618 ■ 3 ▯ PG7/PY154	Emerald green +++ 615 ■ 2 ▯ PW7/PG7/PY154	Phthalo green +++ 675 ◻ 3 PG7	Permanent green D +++ 619 ■ 3 ▯ PG7/PY154	Sap green +++ 623 ◻ 3 PG7/PY110	Olive green +++ 620 ◻ 3 PG7/PY110/PR264
Chromium oxide green +++ 668 ■ 4 PG17	Yellow ochre +++ 227 ■ 2 ▯ PY42	Raw sienna +++ 234 ◻ 2 PY42/PBk11	Light oxide red +++ 339 ■ 2 PR101	Burnt sienna +++ 411 ◻ 2 ▯ PR101	Transp. oxide red +++ 378 ◻ 3 PR101	Transp. oxide yellow +++ 265 ◻ 3 PY42	Raw umber +++ 408 ◻ 3 PY42/PBk11	Burnt umber +++ 409 ◻ 2 ▯ PR101/PBk11
Vandyke brown +++ 403 ■ 2 PR101/PBk11	Payne's grey +++ 708 ■ 2 ▯ PBk9/PB15/PV19	Ivory black +++ 701 ■ 1 PBk9	Lamp black +++ 702 ■ 1 ▯ PBk9/PB29	Silver +++ 800 ■ 3 PW6/15/20/PBk11	Light gold +++ 802 ■ 3 PW6/20/PR101	Deep gold +++ 803 ■ 3 PW6/20/PR101		

Explanations of the signs  
from left to right  
Example:



Letter behind the colour name:  
L = light, M = medium, D = deep

## degree of lightfastness

+++ = at least 100 years lightfast under museum conditions  
(all 70 colours)  
++ = 25 - 100 years lightfast under museum conditions  
+ = 10 - 25 years lightfast under museum conditions  
◦ = 0 - 10 years lightfast under museum conditions

The lightfastness of all these colours has been tested in accordance with ASTM Standards D4303.

## opacity

◻ = transparent (13 colours)  
◻ = semi-transparent (7 colours)  
■ = semi-opaque (24 colours)  
■ = opaque (26 colours)

275 = colour number

2 = price series

▮ = also available in tube of 150 ml

PY184/PY154 = pigments used

# Resources

## **Royal Talens**

<https://www.royaltalens.com/en-gb/>

## **Royal Talens North America**

<https://www.royaltalensnorthamerica.com>

## **Oil Painters of America**

<http://oilpaintersofamerica.com/>

## **Paint Mediums and Additives**

[https://www.artcons.udel.edu/mitra/Documents/MITRA\\_Mediums\\_and\\_Additives.pdf](https://www.artcons.udel.edu/mitra/Documents/MITRA_Mediums_and_Additives.pdf)

## **Pigment Color Index**

[http://www.artiscreation.com/Color\\_index\\_names.html](http://www.artiscreation.com/Color_index_names.html)

## **ACMI**

<https://acmiart.org/>

## **ASTM**

<https://www.astm.org/>