

# MIXOL®

## Multi-purpose tinting paste

### General technical details for users of MIXOL® multi-purpose tinting pastes

MIXOL® is a binder-free multi-purpose tinting paste – **not a ready-made paint!** – Shake thoroughly before and close firmly after use so MIXOL® will not dry out or form lumps or skin. MIXOL® is highly resistant to frost and heat. After freezing it needs only to be thawed at room temperature. Then shake thoroughly and it is ready for use again. Depending on the paint concerned, MIXOL® may be added up to a maximum of 10% by weight. But considering that it is highly concentrated, you can obtain best results by adding a minimum of MIXOL® (please see the percentage additions in the MIXOL® colour card). The maximum additions are: **10% to latex and/or emulsion paints, 5–8% to paints, lacquers, varnishes, high-solids, 6% to acrylic paints, 3–5% to transparent and/or clear lacquers, transparent paints, glazes, wood stains, waxes etc., 3% for silicate and silicone paints and/or coatings. Use only MIXOL® oxide tints in varnishes low in or free from aromatic compounds or in paints containing silicate or silicone resin! (Red cap = oxide type!)**

MIXOL® tints which are no “LW oxide types” are unsuitable or only suitable to a limited extent for colouring latex emulsions containing solvents, or for colouring polyester resin finishes, single or two component synthetic resin paints. In case of tinting lacquers sometimes MIXOL® cannot be mixed easily by hand, therefore use a stirring apparatus, if possible, to get optimal results and to avoid a rub-out effect. It is also important to test results after stirring! Always test for compatibility by means of a “rub-test”. Brush on some of the tinted paint and immediately rub hard with your finger. If it turns a darker shade, the material is either incompatible with MIXOL® or the concentrate has not been properly stirred in. Stir well again and repeat test. **Add MIXOL® first and only then add the thinner if required!** MIXOL® tints No. 6, 7, 10 and 18 are for indoor application only! When a yellow or red are required for external applications, use **True Yellow No. 26, True Red No. 27 and Oxide Brilliant Yellow No. 30** instead of the internal quality No. 7 Canary Yellow and No. 10 Red. For internal application (e.g. on new wood and other surfaces) we also offer a multi-purpose concentrate **White No. 25**, which should be added to colourless coatings and/or transparent paints, glazes etc. to create a pickling effect. Attention: Please read the MIXOL® leaflets as well as the instructions and technical information in this colour chart and on the labels and be aware of the two different terms:

**LW types and/or LW oxide types: Fast to light and weatherproof, for indoor and outdoor application.**

**L types: For indoor application only.**

Adding one 20-ml bottle of MIXOL® to a medium-quality white paint will result in approximately the following percentage tint on the MIXOL® colour chart:

Amount of white material to be coloured	Paints			Latex emulsions				
	375 ml	750 ml	2500 ml	1.25 l = ca. 2 kg	2.5 l = ca. 4 kg	5 l = ca. 8 kg	10 l = ca. 16 kg	12.5 l = ca. 20 kg
Approximate resulting shade	8%	4%	1%	1.6%	0.8%	0.4%	0.2%	0.16%

\* Percentages listed on this shade card are quantities of MIXOL® to be added **by weight**. Slight deviations from the colours on this shade card are due to the printing process. NB: White paints containing different levels of titanium dioxide will tint differently using the same quantity of MIXOL®.

# Oxide-Type-Generation



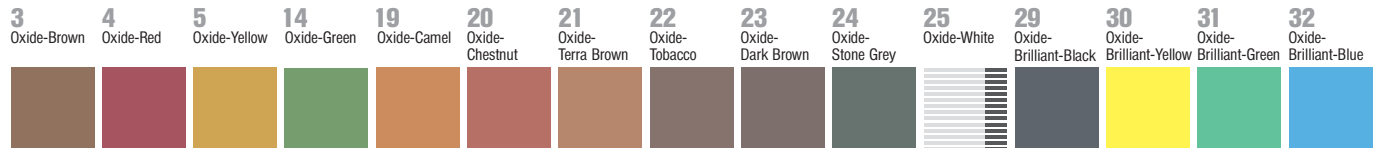
From now on you may recognize the **MIXOL®-Oxide-Types** on their new **red cap!**

The increased demand for high quality and fast drying of varnishes, paints and other coatings has called for tinting systems, such as MIXOL® to expand their assortment of oxide shades. With our MIXOL®-Oxide tints our product range offers a number of inorganic pigments of outstanding quality and fastness that meet even the highest demands! The MIXOL® product range has always included oxide tints, although the variety of shades was limited. Now **15** magnificent **MIXOL®-Oxide-Types** are available! All MIXOL®-Oxide tints are inorganic mineral pigments, being the oxide of various metals. These high quality products are light fast, weather proof and won't fade. MIXOL®-Oxide tints are most important for outdoor application and when working with high quality, complex materials.

For best results, use **MIXOL®-Oxide-Tints** exclusively, if you work with one of the following materials:

- ▶ **Silicate paints or silicate coatings**
- ▶ **Mineral building materials**
- ▶ **Silicone resin paints and coatings**
- ▶ **Varnishes low in or free from aromatic compounds**
- ▶ **Insulating varnishes, sealers as well as exterior paints containing solvents.**

For detailed information please also see our TIPS FOR USERS: **“MIXOL®-Oxide-Types: WHEN and WHY are they used?”**



# MIXOL®

USA

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## MIXOL® Oxide Tints: WHEN and WHY are they used?

- ▶ In all silicate paints and coatings!
- ▶ In all mineral building materials!
- ▶ In all silicone resin paints and coatings!
- ▶ In all varnishes low in or free from aromatic compounds!
- ▶ In insulating varnishes, sealers as well as in exterior paints containing solvents.

The increased demand for high quality and fast drying of varnishes, paints and other coatings, has also called for extremely high standards to be met by tinting systems such as MIXOL®.

With our MIXOL® Oxide Tints our product range offers a number of inorganic pigments of outstanding quality and fastness that meet even the highest demands!

What are the advantages of MIXOL® Oxide Tints?

All MIXOL® Oxide Tints are inorganic mineral pigments, being the oxides of various metals. Thus they are light fast, weather proof and won't change their color for years or show any fading. These conditions are all essential for outdoor applications.

### ● **MIXOL® Oxide Tints in silicate paints and other mineral building materials**

When tinting silicate paints which are commonly used for outdoor application MIXOL® Oxide Tints have always been referred to. And indeed – this is an excellent usage for MIXOL® Oxide Types or any mixtures of these.

Problems arising during the tinting of silicate paints are due to their extremely high alkalinity in the **wet** state. MIXOL® tinting pastes which are **not** of the “oxide types” may cause problems in silicate paints.

There are several reasons for such problems.

In contrast to varnishes and dispersions, silicate paints do not produce a **closed** film. The stability of silicate coatings is due to their “silicification”. This means the coat of paint remains “open-cell”, “breathable” or “water vapor permeable”. However, it also means that the pigments included in the coating are very much exposed to any aggressive environmental conditions like light and weather. Only selected high-quality pigments like the MIXOL® Oxide Tints are resistant to this environmental load.

Moreover depending on the quantity added, the wetting agents necessary in the standard (organic) MIXOL® types may seriously disturb the “silicification” of the silicate paints. Water-spotting and washed out pigments at the surface might be possible consequences!

**In MIXOL® Oxide Tints different wetting agents are used which do not affect the “silicification” or the quality of this coating!**

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When tinting other mineral building materials such as lime, concrete, cement etc., alkali resistant pigments are essential. Because of their alkali stability MIXOL® Oxide Tints are the best choice for tinting of these materials (with the exception of No. 30 Oxide-Brilliant Yellow which, when used in high alkalinity materials, nevertheless shows strong light fastness and weather resistance!). The maximum addition of 3–5% of MIXOL® products should not be exceeded. We recommend using a masterbatch by tinting a smaller amount of material and then stirring this into the total compound to be tinted.

#### ● **MIXOL® Oxide Tints in silicone resin paints**

Silicone resin paints have a high water vapor permeability! In this respect they are almost as good as silicate paints but without having their disadvantageous high water absorption and their high alkalinity. However, they do have a comparable porosity.

As silicone resin paints are usually applied over mineral grounds which have not been sealed with an appropriate primer in order to keep them water vapor permeable, the alkalinity of the ground may adversely affect the pigment.

**Therefore, only MIXOL® Oxide Tints (inorganic pigments) can be recommended without restriction for silicone resin paints!**

#### ● **MIXOL® Oxide Tints in insulating varnishes and sealers**

Polymer resin based insulating varnishes and sealers containing solvents can only be tinted by MIXOL® Oxide Tints. A maximum addition of 5% should not be exceeded.

**Cationic** aqueous insulating varnishes and sealers can largely be tinted with a MIXOL® Oxide Tint addition of up to 1% (approx.), or even up to 5% (approx.) using MIXOL® Oxide Brilliant Tints Nos. 29–32. We recommend testing the compatibility of MIXOL® Oxide Tints with the material used before starting the tinting process.

After tinting the material should be immediately processed as, due to the particular ion technology of insulating varnishes and sealers, a chemical action may occur which can result in immediate or delayed thickening of the material.

#### ● **MIXOL® Oxide Tints in varnishes low in or free from aromatic compounds**

Another advantage of the MIXOL® Oxide Tints is that they can normally be used without any problems in varnishes which are low in, or free from aromatic compounds or in other paints that occasionally cause tinting problems (see section of “insulating varnishes and sealers”).

**Please note:**

**In silicate paints and other mineral building materials, in silicone resin coatings, in varnishes which are low in or free from aromatic compounds and in insulating varnishes, sealers as well as in exterior paints containing solvents**

**use MIXOL® Oxide Tints only!**

# Light fastness and weatherproof of the MIXOL® Multi-purpose tinting pastes

Colour No.	Type	Light fastness values / added quantities of MIXOL®		
		½ %	3 %	10 %
No. 1 Black	LW	12	12	12
No. 2 Umber	LW	12	12	12
No. 3 Oxide-Brown	LW-Oxide	12	12	12
No. 4 Oxide-Red	LW-Oxide	12	12	12
No. 5 Oxide-Yellow	LW-Oxide	12	12	12
No. 6 Maize Yellow	L	8	8	9
No. 7 Canary Yellow	L	9	9	10
No. 8 Green	LW	12	12	12
No. 9 Blue	LW	12	12	12
No. 99 Ocean Blue	LW	12	12	12
No. 10 Red	L	8	8	9
No. 11 Violet	LW	11	11	12
No. 12 Fir Green	LW	11	11	12
No. 13 Grass Green	LW	10	11	11
No. 14 Oxide-Green	LW-Oxide	12	12	12
No. 15 Olive Green	LW	12	12	12
No. 16 Lime Green	LW	10	11	11
No. 17 Mustard	LW	10	11	11
No. 18 Orange	L	8	8	9
No. 19 Oxide-Camel	LW-Oxide	12	12	12
No. 20 Oxide-Chestnut	LW-Oxide	12	12	12
No. 21 Oxide-Terra Brown	LW-Oxide	12	12	12
No. 22 Oxide-Tobacco	LW-Oxide	12	12	12
No. 23 Oxide-Dark Brown	LW-Oxide	12	12	12
No. 24 Oxide-Stone Grey	LW-Oxide	12	12	12
No. 25 White	LW-Oxide	12	12	12
No. 26 True-Yellow	LW	11	11	12
No. 27 True-Red	LW	11	11	12
No. 28 True-Pink	LW	11	11	12
No. 29 Oxide-Brilliant-Black	LW-Oxide	12	12	12
No. 30 Oxide-Brilliant-Yellow	LW-Oxide	12	12	12
No. 31 Oxide-Brilliant-Green	LW-Oxide	12	12	12
No. 32 Oxide-Brilliant-Blue	LW-Oxide	12	12	12

## Explanation to the Light fastness values:

Value	Xeno-Test-exposure hours
7 =	160 h = appr. 4 weeks summerexposure
8 =	320 h
9 =	640 h = appr. 1 year summerexposure
10 =	1250 h
11 =	2500 h
12 =	5000 h = severals years of summerexposure

**LW-Type + LW-Oxide-Type** = fast to light and weatherproof, for indoor and outdoor application!  
**L-Type** = for indoor application only!

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USERS  
FOR  
TIPS

### Tinting of lacquer and paints “free from aromatic compounds”

Several lacquer and paint manufacturers recently sell paints of the new generation, so-called lacquers **“free from aromatic compounds”**. Below please find the most important comments regarding the peculiarities of these new products and **how MIXOL® can be used for tinting them**.

First of all, what actually does **“aromatic compounds”** mean?

Aromatic compounds are benzene derivative solvents that are so far used in most of the commercial paints. Due to health and pollution control reasons some of these **“aromatic compounds”** must now be replaced by other solvents. However, **“free from aromatic compounds”** or **“low odour”** does not mean **“solvent-free”!**

**“Aromatic compounds” have nothing to do with aroma = odour** although the odour annoyance will be reduced by removing the aromatic compounds. More or less this is an accidental concomitant. Due to paint-specific reasons it is indispensable to replace the removed solvents and this is done for instance by adding isoparaffins or similar additives.

However, this exchange complicates toning by multi-purpose tinting pastes like MIXOL®, mixing by hand might not be possible or to a limited extent only.

If the mixing is done by hand and particularly if “non-oxide tints” are used, only the tools like paint brush, paint roller, etc. will do what a stirring apparatus should have done – that is dispersing the varnish with the added concentrate! Then the shade in the paint-bucket will look lighter than the shade, which will appear after painting and/or rolling, i.e. the paint will show a “rub-out”-effect.

But how can you still use the well-proven MIXOL® multi-purpose tinting pastes for toning paints free from aromatic compounds?

**Always use a stirring apparatus (e.g. hand gun drill with stirring impeller at approx. 2000 rpm)!**

**Due to their better dispersibility preferably use our oxide tints!  
Please ask for our optional oxide tints.**

**According to the recommendations mentioned on our bottle labels and in our technical documents, always make a rub-out test after stirring.**

**For lacquers free from aromatic compounds, for silicate or silicone resincoatings use oxide tints only.**

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## Environmental Compatibility – an essential issue to MIXOL®!

This information is meant to give our customers the chance to adequately assess **MIXOL® Universal Tinting Pastes** from the environmental point of view.

The brand name of MIXOL® has been a warrantor of high quality products labelled **“made in Germany”** for more than 35 years now. MIXOL® Universal Tinting Pastes have always fulfilled all the technical requirements necessary for broad compatibility with the most diverse types of paint materials. Additionally, compliance with legal regulations and our own, even stricter requirements have been a matter of course in our company. This means we select raw material suppliers not only according to quality aspects but also according to their commitment to the environment in their manufacturing processes.

Thus we exclusively work with renowned European suppliers successfully certified according to the standard of Environment Management System DIN EN ISO 14001 to obtain our raw materials. Due to close partnership with our pigment manufacturers we have been effectively cooperating in the further development of our products for many years now. This is our method to ensure the premium quality of our products now and in future so our customers can continue working with MIXOL® products in the most environmentally compatible way.

Environment compatibility has become an important factor in connection with reduction of pollutants and waste residues as well as resource management and climate protection. Abandonment of using noxious substances in tints and lacquers has played a growing role, as is proved in the fact that **all of our MIXOL® shades are exempt from the labelling obligation.**

### Neither

- phthalates (plasticizers), nor
- ethylene glycols, nor
- APEO

**are used in the production of MIXOL® Universal Tinting Pastes and thus they are not subject to the Swiss Ordinance of “VOCV; SR 814.018” (“VOC Ordinance”).**

### **MIXOL® Universal Tinting Pastes are free of heavy metals,**

with the exception of oxide tints which contain pigments completely insoluble due to their particular chemical structure and thus cannot be absorbed by the human or animal organism.

**MIXOL® Universal Tinting Pastes** only consist of pigments, surface-active and dispersing agents, glycols and water to achieve good flowability of the concentrates and a high stability of the finely dispersed system.

Another purpose of surface-active and dispersing agents or glycols is to improve wettability of pigments, ensure compatibility with the most diverse types of paint materials and prevent their drying-out.

If you have further questions, please do not hesitate to contact our laboratory.