Oil Painting Solvent Comparison

Request a Material Safety Data Sheet (MSDS) from Manufacturers

<table>
<thead>
<tr>
<th>Solvent Type</th>
<th>Odorless Mineral Spirits</th>
<th>Turpentine</th>
<th>Mineral Spirits</th>
<th>D-Limonene</th>
<th>Solvent Substitute</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Solvent Name</strong></td>
<td>Turpenoid Odorless</td>
<td></td>
<td></td>
<td></td>
<td>Turpenoid Natural</td>
</tr>
<tr>
<td><strong>Base</strong></td>
<td>Petroleum</td>
<td>Pine</td>
<td>Petroleum</td>
<td>Citrus Peel</td>
<td>Trade Secret</td>
</tr>
<tr>
<td><strong>Evaporation Rate</strong></td>
<td>Moderate</td>
<td>Fast</td>
<td>Moderate</td>
<td>Fast</td>
<td>Very slow</td>
</tr>
<tr>
<td><strong>Harmful Vapors</strong></td>
<td>Moderate</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Very low</td>
</tr>
<tr>
<td><strong>PEL (Permissible Exposure Level)</strong></td>
<td>500</td>
<td>100</td>
<td>100-200</td>
<td>30</td>
<td>Not Applicable</td>
</tr>
<tr>
<td><strong>Absorbed Through Healthy Skin?</strong></td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Not Applicable</td>
</tr>
<tr>
<td><strong>Flash Point</strong></td>
<td>135-145°F</td>
<td>90°F</td>
<td>100-105°F</td>
<td>116°F</td>
<td>None</td>
</tr>
<tr>
<td><strong>KB Value (solvent power)</strong></td>
<td>28</td>
<td>56</td>
<td>36</td>
<td>N/A</td>
<td>Not Applicable</td>
</tr>
</tbody>
</table>

**Uses for Solvents**

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>Yes</th>
<th>Yes</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Diluting Paint</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td><strong>Dissolving Alkyd Resins</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td><strong>Dissolving Natural Resins</strong></td>
<td>No</td>
<td>Yes</td>
<td>Some</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td><strong>Making Mediums</strong></td>
<td>Yes</td>
<td>For mediums w/o damar</td>
<td>Yes</td>
<td>For mediums w/o damar</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Cleanup</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>ACMI</strong></td>
<td>CL</td>
<td></td>
<td></td>
<td>AP</td>
<td></td>
</tr>
<tr>
<td><strong>Labeling</strong></td>
<td>Non-Toxic</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Comments**

- **Safest OMS, Solvent, highest PEL.**
- Slightly slower evaporation.
- Higher range of flash point.
- 100% of harmful aromatics removed.
- Use with extra caution due to high evaporation rate and low PEL. Is absorbed through healthy, unbroken skin.
- Cheapest form of petroleum distillate. Stronger solvent than odorless varieties.
- Extremely Low PEL. Regardless of pleasant odor, this solvent is suspected of being a liver and kidney toxicant.
- Non-Toxic & Non-Flammable solvent. Studio and brush cleanser and conditioner.

### Glossary of Solvent Terms

**Flash Point:** The lowest temperature at which a solvent produces vapor in sufficient concentration to create a flammable mixture. The safer OMS solvents have a flashpoint between 135 and 145°F. Weber Turpenoid Odorless is within this range. Turpentine is 90°F.

**KB Value (Kauri-butanol value):** The Kauri-butanol test measures the solvent power of a hydrocarbon. Turpenoid Odorless has a low KB value. It is a much weaker solvent than turpentine.

**OMS:** Oderless mineral spirits.

**PEL (Permissible Exposure Level):** Measured in parts per million, this OSHA standard rates solvents by how much solvent is safe to work around before the air is considered hazardous. A high PEL also indicates a slower evaporation rate. Turpentine evaporates 6 - 7 times faster than Turpenoid and Turpentine has a significantly lower PEL (100PPM). If the PEL of your OMS is rated less than 500, please consider changing brands.

**Turpenoid Odorless:** Highly refined odorless mineral spirits (OMS) that evaporate 100%, leaving no sticky residue in the paint film. Turpenoid Odorless is 100% aliphatic, meaning that it contains no harmful aromatic components. It is an excellent solvent for thinning oil colors.

Free DVD, titled Oil Mediums and their Uses, featuring world renowned artist and educator, Johnnie Liedeahl. Please send us your snail mail address for a hard disc or go to WeberArt.com for free download or streaming of this invaluable educational DVD.

The artist's guide to the proper handling, use and disposal of solvents and other art materials.
Turpenoid Odorless Facts

Turpenoid Odorless has been in the market for more than 50 years. It is now and always has been the safer alternative to Turpentine. We are often asked if Turpenoid is more toxic than turpentine. Turpenoid is actually less toxic than turpentine due to the fact that the dangerous aromatics have been removed. Turpenoid Odorless will cut down on the dangerous aromatics in your paint studio or classroom.

For example, during a typical 3 hours in the studio or oil painting class, 20% of the Turpenoid Odorless evaporates, whereas the 90% of the turpentine will evaporate. Obviously, Turpenoid Odorless will allow you to work safer and for longer periods.

Turpenoid Natural Facts

Turpenoid Natural is the most intensive brush cleaner and gentle conditioner available to artists around the world. It is AP non-toxic and non-flammable. It is the only solvent cleaner available in the art material industry to be able to make that claim. Many artists find Turpenoid Natural to be a great cleaner for all their toolery.

Some artists do use Turpenoid Natural as an amedium. Should you choose to use Turpenoid Natural as a medium, please understand that adding Turpenoid Natural in any amount will slow the drying time somewhat, but to use more than 20% mixture to oil colors will so substantially slow the drying time that most artists will not be happy with the result. Do not attempt to make a wash with Turpenoid Natural. Even with its limitations, Turpenoid Natural is the only solvent that is allowed in many art schools around the world. As with all mediums, artists should test the mixture of Turpenoid Natural with their colors on a similar surface to their artwork before adding to the final art.

Products that are found to be non-toxic carry the AP seal. Products that require cautionary labeling carry the CL seal. These seals are your assurance that Martin/F. Weber Co. products are labeled in such a way that let you know what is non-toxic and what products require the most special care when using. We know how important that is for you, whether painting in your own studio, at home with children running around, or painting in an educational environment.

Frankly, most artists and educators would never purchase an art material color or solvent from a manufacturer that is not a member of ACMI, and who uses these seals on their products. If a company does not choose to have their products tested by ACMI, they do not have your safety as a priority. Look for the seals above before taking an unnecessary risk.

Frequently Asked Questions

“What is the difference between Weber’s Turpenoid Odorless and Turpenoid Natural?”

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Frequently Asked Questions

“What are the AP and CL seals that we see on most art materials?”

Martin/F. Weber Co. product formulas are reviewed by an independent toxicologist, who is a specialist in the area of art materials. Any potential for adverse health effects identified by this review as well as safe use instructions, are placed on the product label.

The Art and Creative Materials Institute (ACMI) is an independent non-profit organization who monitors our (Weber and most concerned art material makers) compliance with these requirements, and when they are met, authorizes the use of one of the seals below:

CL: The non-toxic art materials indicated should be used with caution.

“Why do Martin/F. Weber paint tubes look different than those of other companies?”

Martin/F. Weber Co. made a decision 35 years ago to supply artists with a superior paint tube regardless of the price. Our poly-laminate tubes include layers of aluminum and resin to maximize the life of the product and avoid the cracking frequently associated with plain aluminum tubes. Our larger, easy grip cap eliminates the need to struggle with their removal as with other companies’ tubes.

“What do you mean by the safe use of art materials?”

There are 10 very important points to remember when working in your studio or classroom.

1. When painting, wash your hands thoroughly before eating.
2. Keep flammable solvents covered or sealed when not in use, well out of the reach of small children and away from heat sparks and flames.
3. Be sure to ventilate and circulate the air well in an art studio or classroom, particularly when using toxic solvents. Use an exhaust fan if necessary.
4. When you are cleaning and caring for your brushes, do not use a toxic solvent. Use an AP non-toxic product that will clean and gently condition your brushes, for example Turpenoid Natural.
5. Be careful; only use art materials made by members of ACMI. Look for the AP or CL label.
6. If toxic solvents are splashed on the skin, you should immediately wash the affected area thoroughly with soap and water. Never intentionally put OMS on your hands etc.
7. Never sleep in your studio without first sealing or disposing of all toxic solvents and colors.
8. Do not put brushes in your mouth to shape them.
9. Keep art materials in their original containers or clearly label alternative containers.
10. Keep paint and solvent soiled rags or paper in an airtight container until they can be properly disposed.

“Turpenoid Odorless is expensive. How can I extend its use in my studio?”

Turpenoid Odorless is highly refined to remove the odor and impurities that might cause cracks in your artwork if left after evaporation. This refining makes Turpenoid Odorless safer and more expensive than less refined solvents. To extend the use of Turpenoid Odorless in your studio or classroom, we recommend using Turpenoid Odorless until it will no longer clear. Start with 2 metal sealable cans. Pour the used Turpenoid Odorless into the first can and secure the cover. The next time that you are ready to paint, pour off the clean clear Turpenoid Odorless into the other can. As you use the clean Turpenoid, repeat the process at the end of each painting session. Be sure to label the two cans as Turpenoid Odorless #1 and #2.

“How do I dispose of Turpenoid Odorless?”

After following the procedure outlined above, you will find that a residual sludge has accumulated in the bottom of your two cans. That sludge, if you have been using only AP non-toxic colors, may be disposed of with your normal trash; however, if you are using artist colors labeled CL, then the sludge should be taken to a motor oil disposal station or other disposals station dictated by your local community. Please keep in mind that any turpentine or mediums using a mixture of turpentine are hazardous waste and must be disposed of as such, another reason to use Turpenoid Odorless.

“How do I dispose of empty cans & tubes?”

All Weber art material empty cans, jars and tubes maybe disposed of as you would your normal trash.

“How do I dispose of empty oil paint bottles?”

Martin/F. Weber Co. made a decision 35 years ago to supply artists with a superior paint tube regardless of the price. Our poly-laminate tubes include layers of aluminum and resin to maximize the life of the product and avoid the cracking frequently associated with plain aluminum tubes. Our larger, easy grip cap eliminates the need to struggle with their removal as with other companies’ tubes.

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