



LOW-TOX HAIR DYE OPTIONS



Why Conventional Hair Dye May Be Harmful

Many commercial hair dyes contain harsh chemicals that can disrupt hormones, damage the hair shaft, irritate the scalp, and may carry long-term health risks with repeated exposure. Some of the most concerning ingredients include:

- **PPD (para-phenylenediamine):** A common allergen and potential skin sensitizer. It can cause rashes, irritation, and, in some cases, more serious allergic reactions.
- **Ammonia:** Opens the hair cuticle to deposit color but can dry out and damage hair, irritate the respiratory system, and cause scalp burns.
- **Resorcinol:** A potential endocrine disruptor, linked to thyroid dysfunction with repeated exposure.
- **Toluene:** A solvent that can affect the nervous system and is a known reproductive toxin.
- **Parabens & Phthalates:** Preservatives and fragrance stabilizers that may interfere with hormones.
- **Heavy Metals:** Can accumulate in the body over time, contributing to toxicity.

Cancer Risk Concerns

A [2019 study](#) published in the International Journal of Cancer found that women who frequently used permanent hair dye had a 9% higher risk of developing breast cancer, and the risk increased with more frequent use — particularly in Black women, where risk increased up to 45% with higher usage.



Better Options from Lowest to Higher Toxic Exposure

Here are several cleaner alternatives, listed in order of lowest to higher toxic exposure, depending on your needs and hair goals — but all still far safer than conventional hair dyes:

1 Hairprint by John Warner



- Non-toxic patented technology that restores hair's natural pigment (true repigmentation, not dye)
- Uses a biomimetic process based on melanin restoration
- Best for darker hair colors; not suitable for blondes or lighter shades
- Takes longer to apply but delivers very natural, permanent results
- Free of all conventional dye chemicals
- One of the cleanest, most innovative solutions on the market

2 Radico



- 100% certified-organic Ayurvedic formula using henna, indigo, amla, hibiscus, and other herbs
- Great shade range (even for blondes and grays), smoother mixing and application
- Heavy metal tested and Ecocert/COSMOS certified
- Earthy scent due to botanical ingredients
- Fully plant-based with no PPD, ammonia, peroxide, resorcinol, or preservatives



Better Options from Lowest to Higher Toxic Exposure

3 Light Mountain Natural



- 100% plant-based henna and botanical formulas
- No PPD, ammonia, peroxide, resorcinol, or synthetic chemicals
- USDA Organic (for some products); cruelty-free
- Excellent for red, brunette, and darker shades — may be trickier for blondes
- Affordable, simple, and highly natural option for henna users

4 Madison Reed



- Ammonia-free and PPD-free permanent hair color
- Uses alternative ingredients like ethanolamine and PTD (toluene-2,5-diamine sulfate) — gentler than PPD but still synthetic chemicals
- Free of resorcinol, parabens, phthalates, SLS, and gluten
- Dermatologist-tested; less likely to irritate than conventional dyes but may still cause reactions in highly sensitive individuals
- Convenient at-home option for those wanting permanent coverage with fewer harsh chemicals
- Safer than conventional box dyes but not as clean as fully plant-based options



Better Options from Lowest to Higher Toxic Exposure

5 Hcolor by Oway (Organic Way)



- Italian professional salon brand with lower-tox formulas
- Uses biodynamic botanicals, essential oils, and fewer harsh chemicals
- Lower-toxic compared to conventional salon dyes, but still contains some synthetic ingredients
- Better option for those wanting a professional salon experience with reduced chemical exposure

6 Naturtint



- Easily found in most pharmacies and health stores
- Contains some PPD but at much lower concentrations than conventional dyes
- Free of ammonia, resorcinol, and parabens
- Transitional option for people reducing toxic exposure but not fully ready to go herbal

Note: Even with lower-toxic options, patch testing is always recommended prior to full use.



At-A-Glance Comparison

Brand	Fully Plant-Based	PPD Free	Ammonia Free	Other Synthetics	Best For	Notes
<u>Hairprint</u>	No (biomimetic)	Yes	Yes	None	Darker hair (natural pigment restoration)	True repigmentation, not a dye
<u>Radico</u>	Yes	Yes	Yes	None	Full color range, including blondes and grays	100% Ayurvedic herbs, certified organic
<u>Light Mountain</u>	Yes	Yes	Yes	None	Red and brunette shades	Simple henna formulas, very affordable
<u>Madison Reed</u>	No	Yes (uses PTD)	Yes	Some (PTD, ethanolamine)	At-home permanent dye	Cleaner alternative to box dyes
<u>Oway (Hcolor)</u>	No	Yes	Yes	Some synthetics remain	Salon-quality coloring	Biodynamic botanicals
<u>Naturtint</u>	No	Low PPD	Yes	Some	Transitional users	Easy to find in stores

Final Thoughts

There's no one-size-fits-all when it comes to hair coloring. The options shared here range from fully plant-based, non-toxic formulas to innovative technologies like Hairprint that restore your natural pigment without the use of dyes or harmful chemicals. Even lower-tox salon and transitional options offer a safer step forward compared to conventional dyes.

The most important thing is to find what works for your hair goals, comfort level, and lifestyle — and feel good knowing that every small step toward lowering chemical exposure is a positive step for your health.

As always, patch testing is strongly recommended before use, even with cleaner alternatives.