Via Electronic Submission

Washington State Department of Ecology
Hazardous Waste and Toxics Reduction Program
P.O. Box 47600
Olympia, WA 98504-7600

Re: Wella Company Comments on the Toxic Free Cosmetics Act – CR-102, Draft Restrictions on Intentionally Added Formaldehyde and Formaldehyde Releasers; Public Comment Period: 05/06/2025 – 04/11/2025

April 10, 2025

Dear Stacey Callaway:

On behalf of WELLA COMPANY. We thank you for the opportunity to comment on the Proposed Rulemaking for Restriction on Intentionally Added formaldehyde and Formaldehyde Releasers.

WELLA COMPANY is an innovative global beauty leader with a portfolio of iconic hair, nail, and beauty tech brands for both industry professionals and consumers. With a 140+ year legacy of creating legendary beauty, our vision is to empower individuals to look, feel, and be their true selves. Our portfolio includes leading professional and retail brands such as Wella Professionals, O·P·I, ghd, Briogeo, Nioxin, Sebastian Professional, and Clairol. Wella Professionals is the No. 1 Salon Color Brand in the World, and O·P·I is the No. 1 Salon Nail Brand in the World. With over 5,000 employees, we operate in more than 127 countries.

WELLA COMPANY holds sacred the trust families have put in the safety of its products. We invest tremendous resources in scientific research and safety processes to ensure our products comply with applicable laws and regulations while providing safe products to consumers.

Consumers are increasingly seeking effective hair straightening treatments that improve hair texture and reduce frizz. As demand for these products grows, there is a critical need for innovative solutions that provide straightening benefits while ensuring safety. This includes the development of products that use alternatives to formaldehyde, with a focus on protecting the health of consumers, professional stylists, and the environment.

We respectfully request Washington State Department of Ecology to consider amending the proposed ban on **glyoxylic acid (when used in heat-activated hair straighteners)** to allow its usage with specific restrictions. Additionally, there may be other chemicals on the Part B - Chemical in Cosmetic Products list that are used by manufacturers, which may warrant allowing with restrictions, provided there is sufficient substantiation to support such a determination. e.g., glyoxylol carbocysteine (when used in heat-activated hair straighteners).

Formaldehyde Releasers in the Proposed Rule

Item	Chemical Name	CAS RN
18	Glyoxylic Acid (when used in heat-activated hair straighteners)	298-12-4

WELLA COMPANY's human and environmental toxicologists and product developer chemists reviewed Washington Ecology's *Proposed Rulemaking for Restriction on Intentionally Added formaldehyde and Formaldehyde Releasers.* In furtherance of WELLA COMPANY'S request for reconsideration of the proposed ban for glyoxylic acid, we respectfully submit for your consideration the following comments:

The OSHA permissible exposure limit (PEL) for airborne formaldehyde is 0.75ppm (~0.92 mg/m^3) for healthy adult workers during a typical workday. We propose setting formaldehyde emissions limit at 9-fold below the OSHA PEL to protect vulnerable populations (i.e., elderly, children and individuals with asthma), aligning with the World Health Organization (WHO) safe's limit of 0.1 mg/m^3. Extensive research indicates that the WHO's safety limit is sufficiently protective against sensory irritation and nasal cancer, ensuring no health concern for stylists, clients, and bystanders, including vulnerable populations (WHO, 2010; Nielson et al., 2012).

Glyoxylic acid is the active ingredient in some hair straightening treatments. Its primary function is to bond directly with hair proteins, resulting in a unique hair restructuring process distinct from traditional formaldehyde-based hair straighteners (Boga et al., 2014). In fact, glyoxylic acid-based products do not contain formaldehyde and their efficacy on hair does not involve formaldehyde at any stage. At the stage of heat activation by flat ironing, traces of formaldehyde may be formed on the surface of the heated metal plate at temperatures above 197°C that are dispersed into the ambient air.

Formaldehyde emissions can be mitigated to levels below broadly accepted safe limits (29 CFR 1910.1048 OSHA 1992; WHO, 2010) through the implementation of standardized application protocols (e.g., hair rinsing) that reduce residual glyoxylic acid levels on hair prior to heat activation. Simulation studies modeling worst-case scenarios (e.g., small room volume, no ventilation, no air exchange during measurements, high heat) for glyoxylic acid-based hair straightening treatments measured formaldehyde emissions collected from relevant breathing zones and room air zones throughout the hair straightening process. The averaged formaldehyde emission levels were eight-fold lower than the WHO safety limit of 100 $\mu g/m^3$. These data have been peer reviewed and will be published soon.

To ensure the safe use of glyoxylic acid-based hair straightening products, we recommend the following measures:

- Restricting the use of these products to professional use only, as qualified professionals are trained in safe practices and protocols. Implementing safe practice standards in product protocols, such as "Rinse before heat application."
- Setting maximum formaldehyde release levels to **thresholds 9-fold below the OSHA PEL** to also protect vulnerable populations (i.e., elderly, children and individuals with asthma), aligning with the **WHO's safe's limit of 0.1 mg/m^3**.

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Currently, there are no specific regulatory limits or guidance on acceptable formaldehyde emission levels for hair straightening services. Establishing limits of formaldehyde emission that are not hazardous and that manufacturers must take into account when developing their products will be protective for human health. Moreover, it is important to note that the glyoxylic acid and formaldehyde released into the environment from hair straightening treatments are not hazardous to the environment (U.S. EPA 2024; ECHA).

Lastly, to provide perspective, formaldehyde lehas been detected in a variety of food commodities including coffee (~16 ppm) and produce (~35 ppm) (EFSA, 2014). Formaldehyde emissions from fragrance candle have been measured up to 323 μg/m³, yet average indoor formaldehyde concentrations in American residential homes are reported to be around 23 μg/m³ (Petry et al., 2014; U.S. EPA 2024k).

Proposed Amendment (redlines - Exhibit A)

PART B - CHEMICALS IN COSMETIC PRODUCTS
WAC 173-339-110 Formaldehyde and formaldehyde releasers

(2)(a)(ii) No person may manufacture, knowingly sell, offer for sale, or distribute a cosmetic product described in WAC 173-339-015(2) that contains intentionally added formaldehyde releasers,-including any chemical name aliases or Chemical Abstracts Service Registry Number (CAS RN) aliases, unless the formaldehyde is released as a by-product without a technical or functional effect, the product is restricted to professional use, and emissions remain at least nine-fold below the permissible exposure limit as established by the U.S. Department of Labor, Occupational Safety and Health Administration.

Table: Formaldehyde Releasers

Item	Chemical name	CAS RN
18	Glyoxylic Acid (when used in heat-activated hair straighteners)	298-12-4

For all the reasons outlined above, WELLA COMPANY respectfully requests that you incorporate the proposed amendment language. Thank you again for the opportunity to comment.

Should you wish to discuss any of the above comments, please do not hesitate to contact us. We would be more than pleased to do so.

Sincerely,

Virginia Hill

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Wella Company

References

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4. U.S. EPA 2024, Environmental Risk Assessment for Formaldehyde. EPA Document #EPA-740-R-24-014. https://www.epa.gov/system/files/documents/2025-01/1.-formaldehyde-.-environmental-risk-assessment-.-public-release-.-hero.-dec-2024.pdf
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7. EFSA (2014) Endogenous formaldehyde turnover in humans compared with exogenouscontribution from food sources, EFSA Journal 2014;12(2):3550
8. Petry T et al., (2014) Human health risk evaluation of selected VOC, SVOC and particulate emissions from scented candles. Regulatory Toxicology and Pharmacology, 69:55-70

Exhibit A

PART B - CHEMICALS IN COSMETIC PRODUCTS

NEW SECTION

WAC 173-339-110 Formaldehyde and formaldehyde releasers.

(1) **Compliance schedule.**

(a) Formaldehyde.

(i) The restriction in subsection (2)(a) of this section takes effect January 1, 2025, in accordance with RCW 70A.560.020 (1)(c).

(ii) An in-state retailer in possession of cosmetic products on the date the restriction in subsection (2)(a) of this section takes effect may exhaust their existing stock through sales to the public until January 1, 2026, in accordance with RCW 70A.560.020(3).

(b) Formaldehyde releasers.

(i) The restriction in subsection (2)(b) of this section takes effect on January 1, 2027.

(ii) An in-state retailer in possession of cosmetic products on the date the restriction in subsection (2)(b) of this section takes effect may exhaust their existing stock through sales to the public until January 1, 2028.

(2) Restriction.

(a) Formaldehyde.

(i) No person may manufacture, knowingly sell, offer for sale, or distribute a cosmetic product described in WAC 173-339-015(2) that contains intentionally added formaldehyde, in accordance with RCW 70A.560.020 (1)(c).

(ii) Applying the definition of "intentionally added" in WAC 173-339-020 that takes effect on January 1, 2027:

Formaldehyde is intentionally added to a cosmetic product or ingredient when it functions as an antimicrobial, a preservative, a denaturant, a cross linker, or serves another purpose. This includes the direct addition of formaldehyde, or the addition of a chemical selected to release formaldehyde, to the product or ingredient over time.

(b) Formaldehyde releasers.

(i)No person may manufacture, knowingly sell, offer for sale, or distribute a cosmetic product described in WAC 173-339-015(2) that contains the intentionally added formaldehyde releasers, including aliases of the chemical name and aliases of the CAS RN, in the following table.

Table: Formaldehyde Releasers

Item	Chemical name	CAS RN
1	DMDM Hydantoin	6440-58-0
2	Diazolidinyl Urea	78491-02-8
3	Imidiazolidinyl Urea	39236-46-9
4	Quaternium-15	4080-31-3; 51229-78-8
5	Tosylamide/Formaldehyde Resin (PTSAF)	25035-71-6
6	2-Bromo-2-Nitropropane-1,3-Diol (Bronopol)	52-51-7
7	Sodium Hydroxymethyl-glycinate	70161-44-3
8	Polyoxymethylene Urea	9011-05-6; 68611-64-3
9	Glyoxal	107-22-2
10	Polyoxymethylene Melamine	9003-08-1
11	5-Bromo-5-Nitro-1,3-Dioxane (Bronidox)	30007-47-7
12	7-Ethylbicyclo-oxazolidine (Bioban CS1246)	7747-35-5
13	Benzylhemiformal	14548-60-8
14	Dimethylhydantoin formaldehyde (DMHF)	26811-08-5; 9065-13-8
15	Dimethylol Glycol	3586-55-8
16	Dimethylol Urea	140-95-4
17	Dimethyl Oxazolidine	51200-87-4
~~18~~	~~Glyoxylic Acid (when used in heat-activated hair straighteners)~~	~~298-12-4~~
19	Glyoxylol Carbocysteine (when used in heat-activated hair straighteners)	1268868-51-4
20	MDM Hydantoin	116-25-6; 27636-82-4; 16228-00-5
21	Methenamine	100-97-0
22	Methylal	109-87-5
23	Paraformaldehyde	30525-89-4
24	Polyoxymethylene	9002-81-7
25	Tetramethylol-glycoluril	5395-50-6
26	Timonacic (when used in heat-activated hair straighteners)	444-27-9
27	Tris (hydroxymethyl) nitromethane	126-11-4
28	Urea, polymer with formaldehyde, isobutylated	68002-18-6

(ii) No person may manufacture, knowingly sell, offer for sale, or distribute a cosmetic product described in WAC 173-339-015(2) that contains intentionally added formaldehyde releasers, including any chemical name aliases or Chemical Abstracts Service Registry Number (CAS RN) aliases, unless the formaldehyde is released as a by-product without a technical or functional effect, the finished good product is restricted to professional use, and emissions remain within the permissible exposure limit as established by the U.S. Department of Labor, Occupational Safety and Health Administration.

Table: Formaldehyde Releasers

Item	Chemical name	CAS RN
1	Glyoxylic Acid (when used in heat-activated hair straighteners)	298-12-4

(a) Compliance.

(i) Ecology may infer from any of the following actions that a formaldehyde, a restricted formaldehyde releaser, or both were intentionally added.

Reviewing ingredient lists.

(A) Sampling for formaldehyde in cosmetic products.

(B) Considering other relevant information.

(ii) Manufacturers may rebut this inference by submitting a statement to ecology that includes the following information.

(A) The name and address of the person submitting the statement.

(B) A statement that neither of the following were intentionally added to a cosmetic product or ingredient.

- Formaldehyde.
- A chemical known to release formaldehyde.

(C) Credible evidence supporting that statement. Include information, data, or sources relevant to substantiate that statement. Ecology determines what qualifies as "credible evidence" on a case-by-case basis.

(D) The following certification……