



american cleaning institute®

21 January 2021

Emily Dominiak
Project Lead
Bureau of Waste Reduction and Recycling
625 Broadway
Albany, NY 12233-7253
(via email: 1-4D.HCPCCproducts@dec.ny.gov)

RE: 1,4-Dioxane Limits for Household Cleansing, Personal Care, and Cosmetic Products

Dear Ms. Dominiak:

The American Cleaning Institute® (ACI)¹ is pleased to provide the following comments regarding New York State Department of Environmental Conservation's (NYS DEC's) implementation of rules to comply with amendments to the Environmental Conservation Law (ECL) Articles 35 and 37 that established limits on the amount of 1,4-dioxane that can be present in household cleansing, personal care, and cosmetic products sold or offered for sale in New York State.

ACI appreciates DEC's efforts to include stakeholder input. ACI will limit our comments to concentrated cleansing products and refill concentrate products sold in consumer, institutional and commercial markets. This includes concentrated liquid laundry detergent and packets, hand soaps, general purpose cleaners, and manual pot and pan detergents.

There are significant differences between concentrated and refill concentrate products, which are intended to be diluted on site by the customer, and ready-to-use products, which are ready to use and require no further dilution. Concentrated and refill concentrate products contain less water in the formula, yielding environmental benefits. Some concentrated and refill concentrate products are sold in solid form with no water in the formula, yielding even further environmental benefits. As a result, the concentrations of ingredients as well as by-products in the formula are higher versus ready-to-use products. However, the amount of ingredients/chemicals that is used during

¹ACI represents the \$60 billion U.S. cleaning product supply chain. ACI members include the manufacturers and formulators of soaps, detergents, and general cleaning products used in household, commercial, industrial and institutional settings; companies that supply ingredients and finished packaging for these products; and chemical distributors. ACI serves the growth and innovation of the U.S. cleaning products industry by advancing the health and quality of life of people and protecting our planet. ACI achieves this through a continuous commitment to sound science and being a credible voice for the cleaning products industry.

product application on a single dose basis is still similar to ready-to-use products. This means the amount of chemicals that goes down the drain and eventually enters the environment is also similar.

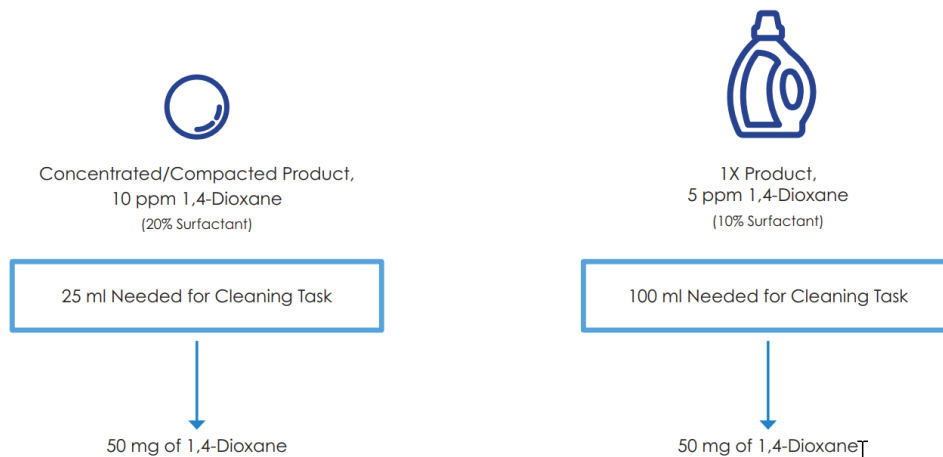
Setting a uniform limit for 1,4-dioxane across all product forms penalizes concentrated and refill concentrate products and may prompt manufacturers to dilute such products with water as the easiest way to comply. However, this approach does not meet the spirit and intent of the statute because there is no reduction in the overall amount of 1,4-dioxane entering the environment, since consumers will use higher volumes of the diluted products to achieve desired results.

As an example, liquid laundry packets (LLPs) are highly concentrated detergents. They provide meaningful consumer and sustainability benefits. Reformulating LLPs to lower 1,4-dioxane is particularly challenging. Due to very low water content, LLPs can only use a narrow range of ingredients that can be solubilized under such conditions. For the same reason, LLPs must rely on the alcohol ethoxysulfate (AES)-based surfactant system. AES is a surfactant associated with 1,4-dioxane as a byproduct.

The very few options to comply with the limit in LLPs include stripping of the surfactant paste to remove 1,4-dioxane as a contaminant. Stripping systems are expensive (tens of millions USD) and may require significant time and effort to install (like building a plant – which takes months, if not years, to complete). The fate of the residual 1,4-dioxane stripped from the paste must also be considered. Releasing to wastewater is not a realistic option as it would deny the purpose of this legislation. The residual 1,4-dioxane needs to be collected and destroyed, which is also costly. These are costs that will be passed onto formulators and ultimately passed onto consumers.

THE BELOW GRAPHICS ARE FOR ILLUSTRATIVE PURPOSES ONLY

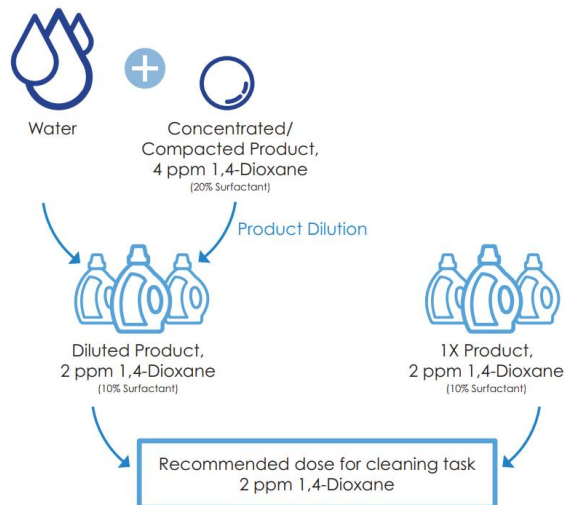
The Shifting Effects Of The New 1,4-Dioxane Law



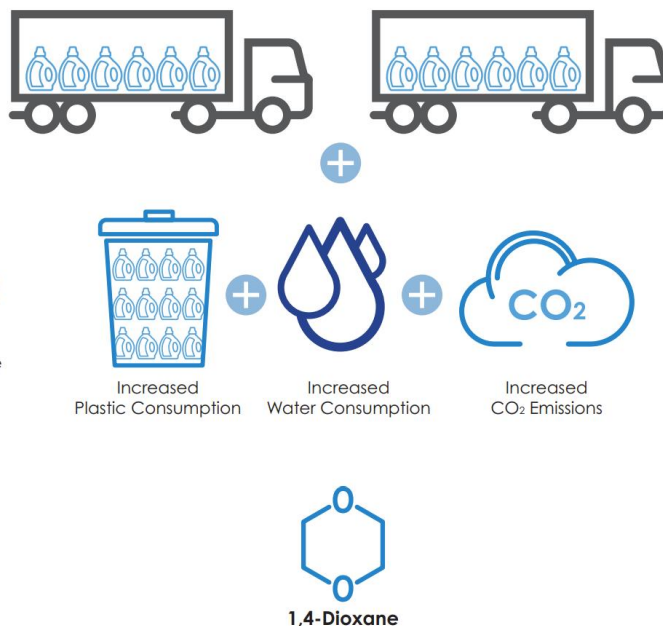
Same level of 1,4-Dioxane because more 1X product is needed for the same cleaning task.

The Shifting Effects Of The New 1,4-Dioxane Law

POTENTIAL 2022 SHIFT FOR THE MANUFACTURER



POTENTIAL EFFECT ON OUR ENVIRONMENT



Some manufacturers may choose to (or need to) dilute their products to bring them into compliance of 1,4-Dioxane byproduct. In addition, this introduces the possible consequences displayed in the above graphic.

Recommendations

For liquid laundry detergent, refill concentrate and other concentrated cleaning products, our recommendation is to work with industry experts to develop and align on provisions and adjustments to normalize 1,4-dioxane levels for concentrated products. This would be the equivalent regulatory measurement required for non-concentrated products when sold. ACI and our member companies would like to work with NYS DEC on processes to put this approach into practice for the different product categories.

Closing

ACI appreciates this opportunity to provide comments and looks forward to further engagement with NYS DEC.

Sincerely,

Kathleen Stanton
Associate Vice President, Technical & International Affairs