



## OFFICE OF CHEMICAL SAFETY AND POLLUTION PREVENTION

WASHINGTON, D.C. 20460

December 4, 2024

### **MEMORANDUM**

**SUBJECT:** Addendum to the *Draft Risk Evaluation for 1,3-Butadiene* and *1,3-Butadiene: Corrected Lifetable Analyses for Leukemia and Bladder Cancer*

**FROM:** Sheila Healy, Branch Supervisor  
Risk Assessment Branch 5  
Existing Chemicals Risk Assessment Division

**TO:** Jeff Morris, Director  
Existing Chemicals Risk Assessment Division

**PURPOSE:** This memo corrects errors in OPPT's *Draft Risk Evaluation for 1,3-Butadiene* ([U.S. EPA, 2024b](#)) and *1,3-Butadiene: Corrected Lifetable Analyses for Leukemia and Bladder Cancer* ([U.S. EPA, 2024a](#)).

**ERRATA:** EPA's *Draft Risk Evaluation for 1,3-Butadiene* ([U.S. EPA, 2024b](#)) and *1,3-Butadiene: Corrected Lifetable Analyses for Leukemia and Bladder Cancer* ([U.S. EPA, 2024a](#)) erroneously report that a 20 percent reduction in the UR translates to a 20 percent reduction in risk. This error is a result of adjusting the UR for 62 years while applying the original lifetime average daily occupational exposure based on 78 years. The correct transformation is to adjust both the UR and lifetime average daily occupational exposure for 62 years instead of 78 years. Adjusting both values is expected to result in only minimal changes to risk estimates from the values presented in the *Draft Risk Evaluation for 1,3-Butadiene*. The occupational risk estimates in the *Draft Risk Evaluation for 1,3-Butadiene* will be updated accordingly after peer review and before release of the *Risk Evaluation for 1,3-Butadiene*. Additionally, three authors were erroneously unacknowledged.

The following corrections to *Draft Risk Evaluation for 1,3-Butadiene* are noted below:

- Line 265 shall read: **Authors:** Kiet Ly and Aderonke Adegboye, Assessment Leads, Sheila Healy, Management Lead, Melody Bernot, Marcy Card, Scott Drewes, Victoria Ellenbogen, Ann Huang, Keith Jacobs, Brooke Porter, Abhilash Sasidharan, Kelley Stanfield, Michael Stracka, and Catherine Taylor.
- Line 1226 shall read: The values below and in Table 5-4 do not reflect the corrected occupational UR. Table 5-4 will be updated to reflect the corrected occupational UR in the *Risk Evaluation for 1,3-Butadiene*.

- Footnote *a* on Table 5-4 shall read: The occupational unit risk was corrected as described in *1,3-Butadiene: Corrected Lifetable Analyses for Leukemia and Bladder Cancer* ([U.S. EPA, 2024a](#)). The corrected occupational unit risk = 0.0049 per ppm ( $2.2 \times 10^{-6}$  per  $\mu\text{g}/\text{m}^3$ ). The cancer estimates herein do not reflect the updated occupational UR.
- Line 2051 shall read: Although Table 5-4 does not reflect this change, EPA's preliminary risk determination described below accounts for this correction. No central tendency risk estimates cross the benchmark threshold of  $1 \times 10^{-4}$  as a result of this change.
- Line 3508 shall read: ([U.S. EPA, 2024a](#)). Both the corrected UR and lifetime average daily occupational exposure will be adjusted for 62 years instead of 78 years. The corrected UR is 0.0049 per ppm ( $2.2 \times 10^{-6}$  per  $\mu\text{g}/\text{m}^3$ ), down from 0.0062 per ppm. The value below does not reflect these adjustments. The value for  $EV_{\text{cancer}}$  will be corrected to reflect the updated occupational UR and revised averaging time in the *Risk Evaluation for 1,3-Butadiene*.

The following correction to *1,3-Butadiene: Corrected Lifetable Analyses for Leukemia and Bladder Cancer* is noted below:

- CONCLUSION, paragraph 2 shall read: For the occupational leukemia UR, correcting the lifetable to initiate exposure at age 16 reduces the chronic occupational leukemia UR from 0.0062 per ppm (Table 5-8, appended) to 0.0049 per ppm (Table\_Apx F-1. Modified Table 5-8 below in this memo). Reduction of the chronic occupational leukemia UR is not expected to change risk conclusions at the central tendency in Table 5-4 of the *Draft Risk Evaluation for 1,3-Butadiene* (i.e., no central tendency risk estimates cross the benchmark threshold of  $1 \times 10^{-4}$  as a result of this change). These lifetable corrections will be incorporated after peer review of the *Draft Risk Evaluation for 1,3-Butadiene* and prior to release of the *Risk Evaluation for 1,3-Butadiene*. Both the corrected lifetable and lifetime average daily occupational exposure will be adjusted for 62 years instead of 78 years. The occupational risk estimates in the *Draft Risk Evaluation for 1,3-Butadiene* will also be updated accordingly after peer review and before release of the *Risk Evaluation for 1,3-Butadiene*.

## REFERENCES

- U.S. EPA. (2024a). *1,3-Butadiene: Corrected Lifetable Analyses for Leukemia and Bladder Cancer*  
[https://hero.epa.gov/hero/index.cfm/reference/details/reference\\_id/12087608](https://hero.epa.gov/hero/index.cfm/reference/details/reference_id/12087608)
- U.S. EPA. (2024b). *Draft Risk Evaluation for 1,3-Butadiene*.  
[https://hero.epa.gov/hero/index.cfm/reference/details/reference\\_id/11363699](https://hero.epa.gov/hero/index.cfm/reference/details/reference_id/11363699)