



US EPA Risk Evaluation for Formaldehyde Under the Toxic Substances Control Act

Presentation to the AHFA Regulatory Summit
August 20, 2025

EPA Risk Evaluation for Formaldehyde

- Intrinsik reviewed the draft risk evaluation (discussed at last years Summit)
- EPA revised the risk evaluation and released the final version in December of 2024
- Many revisions and improvements; however, several concerns remain
- Primary outstanding concern relates to the evaluation of foam used in furniture products
- Concerns/comments presented to EPA in written form and through two meetings with staff

Intrinsik/AHFA reviewed the Final Risk Evaluation

- The final risk evaluation consists of 59 separate files, with several inconsistencies noted between sections.
- ***EPA states Title VI products pose no unreasonable risk and no longer groups wood furniture with cleaning products***
- Wood article furniture, covered by two exposure scenarios within the ‘Floor coverings; Foam seating and bedding products; Cleaning and furniture care products; Furniture & furnishings including stone, plaster, cement, glass and ceramic articles; metal articles; or rubber articles’ COU
 - (i) pressed wood furniture
 - (ii) living room décor change (aggregate) which includes pressed wood furniture, indoor furniture (foam components), and indoor furniture (textile components)

EPA Should Reassess its Evaluation of Foam

- Table 2-2 of the Unreasonable Risk Document suggests a concern for the COU that includes wood furniture
- EPA states Title VI products pose no unreasonable risk
- Concerns related to home furnishing COU arise from use of foam in furniture products
- EPA assesses foam used in furniture in two sections of the final Risk Evaluation
 - Consumer Exposure Assessment
 - Indoor Air Assessment

COU - Foam Seating/Bedding is Not Slab Insulation



Flexible Polyurethane Foam



Foam Slab Insulation

Consumer Exposure Assessment – Reconsider Reliance on “Foam Insulation”

- Table 2-1 references a formaldehyde content of 5-20% in “Foam Insulation (living room furniture)”
- The data came from an Owens-Corning SDS for foam slab insulation (700 Series)
- Foam slab insulation is not the type of foam used seating or bedding finished goods
- The SDS, from 2013, indicates 5-20% Urea, polymer with formaldehyde and phenol, it does not indicate 5-20% formaldehyde
- Table 2-1 states for “Foam Insulation (living room furniture)” – *Not assessed as formaldehyde content in finished good insulation is expected to be minimal*
- The unreasonable risk determination in this assessment is in Table B-2 where EPA provides the 15-minute peak concentration of 4.91 ppm for Foam Seating (residential)
 - EPA compares the 4.91 ppm concentration to the acute benchmark of 0.5 ppm and determines an Unreasonable Risk
 - BUT: This relates back to the data in Table 2-1 which indicates that formaldehyde from foam insulation was not assessed

**The Consumer Exposure Assessment is not based on data
for the foam actually used in seating and bedding**

Indoor Air Assessment – Reconsider Reliance on Trailer Study

- The Indoor Air Assessment references the Maddelena FEMA Trailer Study as its single datapoint for foam
- Emission rates were provided for foam taken from four FEMA Trailers (Tables 2-2, 2-3, 2-4, and 2-5) **in 2005**
- Emission rates for foam taken from four FEMA Trailers ranged from 30.4 $\mu\text{g}/\text{m}^2/\text{h}$ to 410 $\mu\text{g}/\text{m}^2/\text{h}$
- Using this data: in Table 3-5, EPA predicts 15-minute peak concentrations of 3-68 $\mu\text{g}/\text{m}^3$ (0.003 to 0.055 ppm) for the aggregate furniture scenario (wood, foam and fabric)
- This is not representative of current foam:
 - Foam used in bedding and upholstered furniture are generally made without formaldehyde
 - Predicted concentrations include wood furniture from Maddelena that was not TSCA VI compliant so skewed high.

Consider Relevant Data Submitted to EPA

- Data submitted to the record by AHFA, PFA
- CertiPUR-US® data
 - Certification program, administered by NGO, established in **2008**
 - Certifies foam material in home furnishings
 - Worldwide 100+ producers participate
 - 1800 analytical tests have revealed no formaldehyde > 0.1 mg/m³
- AHFA data
 - Retained independent testing firm, Benchmark International
 - Conducted chamber testing to identify the potential “worst case” from common foam sample textile raw materials used in U.S.
 - The Benchmark chamber tests on foam samples from December resulted in an emission rate of <24 µg/m²/h (similar to lowest value reported by Maddelena which corresponds to a 15-minute peak concentrations of 0.003 ppm (vs. acute benchmark of 0.5 ppm))

Bottomline

- EPA relied on a dated SDS for foam slab insulation
 - Owens-Corning began removing formaldehyde from its foam insulation in 2011
 - Current SDS for Owens-Corning 700 Series Foam Insulation does not indicate formaldehyde in today's product
 - Foam Insulation is not used in furniture products
 - EPA also relied on the aggregate furniture scenario from the Maddelena FEMA Trailer Study; the aggregate furniture scenario includes wood, foam and fabric
 - Predicted concentrations include wood furniture from Maddelena that was not TSCA VI compliant
- Recent data indicates that formaldehyde levels in the foam used in furniture is very low and does not present an Unreasonable Risk
- EPA should reassess risks related to foam in furniture utilized current information and the type of slab foam used in furniture products