



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

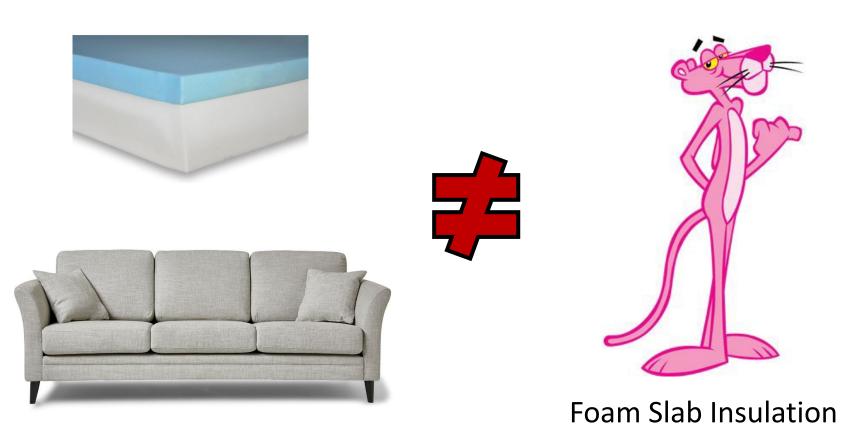
- The final risk evaluation consists of 59 separate files, with several inconsistencies noted between sections.
- EPA states Title VI products pose no unreasonable risk and no longer groups wood furniture with cleaning products
- Wood article furniture, covered by two exposure scenarios within the 'Floor 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 <u>Not</u> Slab Insulation



Flexible Polyurethane Foam



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) <u>in 2005</u>
- Emission rates for foam taken from four FEMA Trailers ranged from 30.4 μg/m²/h to 410 μg/m²/h
- Using this data: in Table 3-5, EPA predicts 15-minute peak concentrations of 3-68 ug/m3 (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