ACC-NAFRA Testimony on H.B 5299
Before the Connecticut Committee on Children
March 2, 2016

Co-chair Senator Bartolomeo, Co-chair Representative Urban, and members of the Committee on Children. My name is Stephen Rosario, CAE, Senior Director, Northeast Region for the American Chemistry Council, and I am here today representing its North American Flame Retardant Alliance.[i]

We appreciate the opportunity to testify today and look forward to additional opportunities to provide information to the Legislature on the issues of fire safety and flame retardants.

I am speaking today in opposition to HB 5299, An Act Concerning Toxic Flame Retardants in Children's Products and Upholstered Residential Furniture. My testimony emphasizes several key points:

Fires still represent a very real danger to life and property and are an especially important safety issue for children.

Fire still represents a very real danger in the United States, with fire departments responding to a fire every 25 seconds. This is equally true for Connecticut where according to the latest annual data (2011) from the state, fire agencies in Connecticut reported more than 12,000 fire incidents which resulted in 18 fire fatalities, over 120 civilian fire injuries, and caused an estimated $48 million in property and content loss.[i]

According to the U.S. Fire Administration's most recent annual data on fire risk to children, 355 children younger than 15 died as a result of fires and 57% of all child fire deaths affected children age 4 or younger. Also, fire injuries affected an estimated 2,000 children in 2010, and 49 percent of child fire injuries occurred to children age 4 or younger.[ii]

Fire statistics show that children are more susceptible to injury or death from fire than the average person. According to the Electrical Safety Foundation International, fires and burns are the third leading cause of unintentional death among children 14 and under.[iii] According to the National Fire Protection Association (NFPA), children under five years old are nearly 1.5 times more likely to die in a home fire as the average person.[iv]

Flame retardants slow the spread of fires by controlling the rate of heat release and other mechanisms. They provide building occupants and first responders with valuable time to escape and control fires.

A recent book published by the American Chemical Society presents peer-reviewed summaries of research from 32 national and international studies concluding that the application of flame retardants in furniture and other uses helps prevent or slow the spread of fire.[v] When commenting on the position that flame retardants do not work, the editors of the volume state unequivocally that the claim:

> "flies in the face of decades of work by thousands of fire scientists, chemists, and others, reported in thousands of peer reviewed papers, showing that from laboratory to full scale tests that flame retardants and flame retardant materials are effective [and]. . . effectively states that decades of peer reviewed work confirmed by thousands of scientists in multiple countries is worthless and that opinion trumps data."

Tests on upholstered furniture have shown the importance of flame retardants. For example, a comparative burn of couches with flame-retarded or non-flame-retarded cushion foam showed that the flame-retarded couch required an ignition source four times as intense to ignite as did the non-retarded foam, and even after ignition, the sofa with the flame retarded foam offered an extra minute of escape time.[vi]

A study of chairs with flame-retarded or not foam and cotton cover fabric showed that the flame-retarded chair survived the fire while the other chair without flame retardants was destroyed quickly.[vii] Another test by the Southwest Research Institute found that in tests of furniture with fire-protected cover and fire-protected foam, the initial flames died out and ultimately the furniture did not burn. [viii] These extra minutes would provide valuable time for people to escape and for fire fighters to respond.

Flame retardants are reviewed for their safety.

In the U.S., more than a dozen federal laws govern the safe manufacture and use of chemicals. Flame retardants on the market today, like all chemicals, are subject to review by the U.S. Environmental Protection Agency (EPA) and other national regulatory agencies around the world.

This bill would restrict substances that government agencies around the world have determined to not present a significant risk to human health or the environment. European and Canadian reviews for TCPP, TDCP, and HBCD have concluded that there is no concern for consumers or the general public for human health or environmental risk at the levels to which people are exposed.[ix]

The proposed regulation is unnecessary. Flame retardants are either already regulated or the subject of risk assessment by the U.S. Environmental Protection Agency (EPA).

EPA is conducting updated assessments of over 70 flame retardants. As part of this process, industry has provided data and testing information to help inform the Agency's reviews.

TCEP, TCPP, TDCP, and HBCD are among the chemicals on which EPA is conducting its assessments. These are comprehensive assessments that include evaluation of specific uses and exposed populations (e.g., workers, children, general public).

If EPA identifies a risk, it will pursue regulatory action such as restriction or bans on certain uses of a chemical. We understand it costs EPA approximately $2.5 million on average to complete the assessment and any follow up regulatory action on Work Plan chemicals.

Given that these assessments, which are intended to assess specific uses and exposure information, are already underway, we think it would be important for Connecticut to consider this information as it assesses flame retardants and before it takes any action on these substances.

All flame retardants are not persistent, bioaccumulative, and toxic chemicals despite claims to the contrary

The European Chemicals Bureau (ECB) conducted a comprehensive assessment of TCPP in 2008 and found that it does NOT meet the criteria for designation as a persistent, bioaccumulative, and toxic (PBT) substance. Their review considered important health considerations such as genotoxicity, carcinogenicity, and reproductive toxicity from all routes of exposure.[x]

The ECB also conducted an assessment of TDCP in 2008 and, as for TCPP, concluded that it does not meet the PBT criteria.[xi]

A diverse group of chemicals with different properties and structures are used as flame retardants. A variety of flame retardants is necessary because the materials that need to be made fire-resistant are very different in their physical nature and chemical composition, as are the performance requirements of the final product.

Claims that the levels of Tris are doubling in children every 2-5 years – what is the scientific basis for this?

First, it is important to know that "Tris" is not a single compound, but a generic term that is applied broadly to three substances: TCEP, TCCP, and TDCPP.

The Centers for Disease Control and Prevention (CDC) has for years managed our national biomonitoring program, which measures the presence of environmental chemicals in human blood and urine. At this time, their program does not include TCEP, TCPP, or TDCPP [xii] and does not children under 12 because of personal consent issues.

Similarly, California's state-wide biomonitoring does not include the three tris chemicals at this time.

Certainly we would like to see any scientific or toxicological information or studies that show and support this claim that the levels of Tris chemicals are doubling in children every 2-5 years.

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[i] Connecticut Department of Public Safety. State Totals of Fire Incidents, Casualties, and Dollar Loss for 01-2012 to 12-2012 (http://www.dir.ct.gov/dps/cfirs/pdfs/State%20Totals%20of%20Fire%20Incidents,%20Casualties,%20and%20Dollar%20Loss%20for%2001-2012%20to%2012-2012.pdf).

[ii] U.S. Fire Administration Annual Fire Statistics 2011 and Fire Risk to Children Report 2010 (http://nfa.usfa.dhs.gov/downloads/pdf/statistics/v14i8.pdf).

[iii] ESFI, Holiday Data and Statistics, available at http://www.esfi.org/resource/holiday-data-and-statistics-359#InjuryAndFatalityStatistics (accessed Jan. 4, 2016).

[iv] NFPA. *Characteristics of Home Fire Victims*. March 2010. Available at http://www.nfpa.org/~/media/Files/Research/NFPA%20reports/Victim%20Patterns/oshomevictims.pdf (accessed Oct. 13, 2015).

[v] Morgan, A.B., Wilkie, C.A., and Nelson, G.B. (eds.). 2012. Fire and Polymers VI: New Advances in Flame Retardant Chemistry and Science. American Chemical Society, Washington, DC.

[vi] Hirschler, M.M. 2004. Residential Upholstered Furniture in the United States and Fire Hazard. Pages 300-319 in M. Lewin (ed.) Proceedings of the Fifteenth Annual Conference on Recent Advances in Flam Retardancy of Polymeric Materials, June 7-9, 2004, Stamford, CT. Business Communications Company, Norwalk, CT.

[vii] Hirschler, M.M., Blais, M.S., and Janssens, M.L. 2013. Fire Performance of Polyurethane Foam: California Technical Bulletin CA TB 117 and British Standard BS 5852. Pages 319-330 in Proceedings of the Fire and Materials Conference, Jan. 28-30, 2013, San Francisco, CA. Interscience Communications, London, UK. A video of the chair burn tests is available at https://www.youtube.com/watch?v=2K9hz7Wiw7c.

[viii] Janssens, M. 2012. Reducing uncertainty of quantifying the burning rate of upholstered furniture, Report on grant no. 2010-DN-BX-K221. National Institute of Justice, Office of Justice Programs, U.S. Department of Justice. Available at https://www.ncjrs.gov/pdffiles1/nij/grants/239050.pdf (accessed Jan. 10, 2016). A video that explains this study in more detail can be found at https://www.youtube.com/watch?v=3lRcza_nPKI.

[ix] European Chemicals Bureau. 2008. European Union Risk Assessment Report Tris(2-chloro-1-methyl ethyl) phosphate (TCPP). Available at: http://echa.europa.eu/documents/10162/6434698/orats_summary_tris2-chloro-1-methylethylphos_en.pdf; European Chemicals Bureau. 2008. European Union Risk Assessment Report Tris[2-chloro-1-(chloromethyl)ethyl] phosphate (TDCP). Available at: http://echa.europa.eu/documents/10162/6434698/orats_final_rar_tris2-chloro-1-chloromethyleth_en.pdf; Environment Canada and Health Canada. 2011. Screening Assessment Report on Hexabromocyclododecane. Available at: http://www.ec.gc.ca/ese-ees/7882C148-8AE4-4BA4-8555-668C49F91500/HBCD%20-%20FSAR%20-%20EN.pdf.

[x] European Chemicals Bureau. 2008. European Union Risk Assessment Report Tris(2-chloro-1-methyl ethyl) phosphate (TCPP). Page 8. Available at: http://echa.europa.eu/documents/10162/6434698/orats_summary_tris2-chloro-1-methylethylphos_en.pdf.

[xi] European Chemicals Bureau. 2008. European Union Risk Assessment Report Tris[2-chloro-1-(chloromethyl)ethyl] phosphate (TDCP). Page IX. Available at: http://echa.europa.eu/documents/10162/6434698/orats_final_rar_tris2-chloro-1-chloromethyleth_en.pdf.

[xii] See the list of chemicals included in CDC's program at http://www.cdc.gov/exposurereport/pdf/bluesheet.pdf.