

**United States Department of Transportation
National Highway Traffic Safety Administration (NHTSA)**

**Petition for Rulemaking to Update Federal Motor Vehicle Safety Standard (FMVSS) No.
302, Flammability of Interior Materials**

**Submitted by:
Consumer Reports
607 14th St. NW, Suite 725 (7th Floor)
Washington, D.C. 20005**

**Green Science Policy Institute
PO Box 9127
Berkeley, CA 94709**

**International Association of Fire Fighters
1750 New York Avenue, NW Suite 300
Washington, D.C. 20006**

January 14, 2025

Summary

On behalf of Consumer Reports, Green Science Policy Institute, and International Association of Fire Fighters, and with the support of 68 organizations and over 46,000 consumers, we hereby petition the U.S. Department of Transportation's National Highway Traffic Safety Administration (NHTSA) under 49 CFR Part 552 to update Federal Motor Vehicle Safety Standard (FMVSS) No. 302, Flammability of Interior Materials (49 CFR § 571.302), which specifies burn resistance requirements for materials used in the occupant compartment of motor vehicles. FMVSS 302, adopted in 1971, was designed to protect against the spread of small interior fires, especially those caused by cigarettes or matches. Today, far fewer people smoke in their cars, and less than ten percent of vehicle fires are caused by open flames or smoking materials ([REF](#)). Most vehicle fires are caused by mechanical or electrical failures in

engines ([REF](#)) and are so large by the time they reach vehicle interior compartments that flame retardants used at the level needed to meet FMVSS 302 are unlikely to provide a fire-safety benefit.

A recent peer-reviewed study found that 101 cars from 22 brands tested across the U.S. contained toxic flame retardants in the air and/or foam of their passenger compartments. These chemicals, including known carcinogens and neurotoxins, are used in order to meet the NHTSA standard. Every day, people are exposed to these chemicals inside their cars. These chemicals might delay ignition for seconds, but then flame retardants will burn, and can create additional smoke, soot, toxic gases, dioxins, and furans, which are the major causes of fire deaths and can contribute to firefighter cancer.

We note that in September 2024, the Environmental Protection Agency (EPA) released its final risk evaluation for tris(2-chloroethyl) phosphate (TCEP) and determined that it poses an unreasonable risk of injury to human health and the environment, with the potential to cause kidney cancer, damage the nervous system and kidneys, and harm fertility ([REF](#)). TCEP (found in up to 44% of cars) has been listed on California's Proposition 65 as cancer-causing since 1992 ([REF](#)). The EPA is also in the process of conducting a risk evaluation for Phosphoric Acid, Triphenyl Ester (TPP or TPHP, found in up to 65% of cars) ([REF](#)). Other prominent flame retardants used in vehicles manufactured since 2015 such as tris(1,3-dichloro-2-propyl) phosphate (TDCIPP or TDCPP, found in up to 59% of cars) and tris(1-chloro-2-propyl) phosphate (TCIPP or TCPP, found in up to 99% of cars) have not yet been scheduled for EPA risk evaluation. However, TDCIPP was added to California's Proposition 65 list as cancer causing in 2011 ([REF](#)) and has been banned, along with other flame retardants, from certain

products such as children’s pajamas and mattresses. A 2023 United States National Toxicology Report found evidence of TCIPP carcinogenic activity in rodents ([REF](#)).

We urge NHTSA to update this harmful and ineffective standard that leads to daily toxic exposures for everyone who rides in cars—especially infants and children who spend many hours in car seats—without providing a proven fire-safety benefit.

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Organizational Sign-on Letter to NHTSA to Update FMVSS No. 302

June 18, 2024

Ms. Sophie Shulman
Deputy Administrator
National Highway Traffic Safety Administration
U.S. Department of Transportation
1200 New Jersey Avenue, S.E.
Washington, D.C. 20590

Dear Deputy Administrator Shulman:

We, the undersigned organizations, are writing to urge the U.S. Department of Transportation's National Highway Traffic Safety Administration (NHTSA) to update Federal Motor Vehicle Safety Standard (FMVSS) No. 302, Flammability of Interior Materials, which specifies burn resistance requirements for materials used in the occupant compartment of motor vehicles. This nearly 53-year-old standard does not have a proven fire-safety benefit. Yet, to meet this standard, manufacturers add cancer-causing and neurotoxic flame retardant chemicals to seat foam and other materials—including those in children's car seats. This exposes vehicle occupants to harm, particularly infants and children whose brains and bodies are still developing.

A [recent peer-reviewed study](#) by Duke University, Green Science Policy Institute, and University of Toronto researchers found harmful flame retardants in the interiors of all 101 cars tested across 22 brands. One flame retardant found in 99% of cars is a [suspected carcinogen](#). Other detected flame retardants are known to cause cancer, as well as developmental and reproductive harm. Studies have shown that the average American child has lost [three to five IQ points](#) from exposure to the polybrominated diphenyl ether (PBDE) flame retardants once commonly used in cars. Concerningly, the organophosphate flame retardants currently used in cars are also increasingly being linked to [IQ loss](#) and other harms.

While evidence does not exist to support the efficacy of FMVSS 302 in preventing vehicle fire-related injuries or fatalities, we do know that the flame retardants that are primarily used create additional smoke, soot, toxic gases, dioxins, and furans, which can impede escape, cause injury, and also contribute to cancer and other health harms for first responders.

One possible improvement would be to update FMVSS 302 to replace the current open-flame test with a smolder test that manufacturers can pass without using harmful flame retardants. This is how California [updated](#) its flammability standard for upholstered furniture and baby products a decade ago. Notably, this update modestly increased furniture fire safety [without the use of flame retardants](#) and it is now followed nationwide.

With a significant decrease since the 1970s in cigarette smoking and related behavior that could lead to fires inside the occupant compartment, as well as increasing research showing the severe health harm of flame retardant chemicals, consumers deserve an updated standard that protects

against both fire and chemical harms. Together with the more than 32,000 individuals who have signed a [Consumer Reports petition](#) to the agency, our organizations respectfully request that NHTSA initiate an effort to develop an improved FMVSS 302 flammability standard that better protects Americans' health and also maintains vehicle fire safety. Thank you for your consideration.

Sincerely,

National Organizations

Consumer Reports
Green Science Policy Institute
International Association of Fire Fighters

Alliance of Nurses for Healthy Environments
Ban SUP (Single Use Plastic)
Breast Cancer Prevention Partners
Brighter Beginnings
Center for Auto Safety
Center for Biological Diversity
Center for Community Action and Environmental Justice
Center for Environmental Health
Center for Public Environmental Oversight
Children's Environmental Health Network
Clean Production Action
Clean Water Action
CleanEarth4Kids.org
Collaborative for Health & Environment (CHE)
Commonweal Biomonitoring Resource Center
Consumer Federation of America
Consumers for Auto Reliability and Safety
Defend Our Health
Design Chain Associates, LLC
Earthjustice
Ecology Center
Environmental Defense Fund
Environmental Working Group
Families Advocating for Chemical and Toxics Safety
Grandparents4Action
Grassroots Environmental Education
International Pollutants Elimination Network (IPEN)
Kids and Car Safety
Mamavation Maternal and Child Health Access
Moms Advocating Sustainability
Moms Clean Air Force

National Center for Health Research
National Consumers League
National Stewardship Action Council
Natural Resources Defense Council
Non Toxic Communities
Non-Toxic Neighborhoods
Plastic Pollution Coalition
Prevent Cancer Now
Public Citizen
Public Employees for Environmental Responsibility
Récolte Energy
Resource Renewal Institute
Responsible Purchasing Network
Science and Environmental Health Network
SEE (Social Eco Education)
The Last Plastic Straw
Toxic-Free Future
U.S. Public Interest Research Group
Women's Voices for the Earth

State and Local Organizations

Alaska Community Action on Toxics
California Nurses for Environmental Health and Justice
California Public Interest Research Group (CALPIRG)
Clean+Healthy
Feather River Action!
Illinois PIRG
Long Beach Gray Panthers
Maryland PIRG
Massachusetts Breast Cancer Coalition
MASSPIRG
Nantucket PFAS Action Group
New York Clinicians for Climate Action
Physicians for Social Responsibility - Los Angeles
Protect Wild Petaluma
San Francisco Firefighters Cancer Prevention Foundation
Save The Bay
Toxic Free North Carolina
Zero Waste Washington

Works Cited in Petition Summary

NHTSA, Test Procedures for Evaluating Flammability of Interior Materials, (Jan. 25, 2017) (online at: www.nhtsa.gov/sites/nhtsa.gov/files/documents/2017saebhennessy.pdf)

DOT, Bureau of Transportation Statistics, Potential Alternative Methodology for Evaluating Flammability of Interior Automotive Materials, (April, 1, 2021) (online at: www.rosap.ntl.bts.gov/view/dot/55583)

EPA, Risk Evaluation for Tris(2-chloroethyl) Phosphate (TCEP), (Updated Sept. 26, 2024) (online at: www.epa.gov/assessing-and-managing-chemicals-under-tsca/risk-evaluation-tris2-chloroethyl-phosphate-tcep)

California Office of Environmental Health Hazard Assessment, Proposition 65, Tris(2-chloroethyl) Phosphate, (online at: www.p65warnings.ca.gov/chemicals/tris2-chloroethyl-phosphate)

EPA, Risk Evaluation for Phosphoric Acid, Triphenyl Ester (TPP) (Updated June 17, 2024) (online at: www.epa.gov/assessing-and-managing-chemicals-under-tsca/risk-evaluation-phosphoric-acid-triphenyl-ester-tpp)

California Office of Environmental Health Hazard Assessment, Proposition 65, Chlorinated Tris, (online at: www.p65warnings.ca.gov/fact-sheets/chlorinated-tris)

National Toxicology Program, Abstract for TR-602, Toxicology and Carcinogenesis Studies of an Isomeric Mixture of Tris(chloropropyl) Phosphate Administered in Feed to Sprague Dawley (Hsd:Sprague Dawley SD) Rats and B6C3F1/N Mice, June 2023, (online at: www.ntp.niehs.nih.gov/publications/reports/tr/600s/tr602)

Works Cited in Organizational Sign-On Letter

Rebecca M. Hoehn, Lydia G. Jahl, Nicholas J. Herkert, Kate Hoffman, Anna Soehl, Miriam L. Diamond, Arlene Blum, and Heather M. Stapleton. Flame Retardant Exposure in Vehicles Is Influenced by Use in Seat Foam and Temperature. *Environmental Science & Technology*. 2024 58 (20), 8825-8834, DOI: 10.1021/acs.est.3c10440 (online at: www.pubs.acs.org/doi/10.1021/acs.est.3c10440)

National Toxicology Program. NTP Technical Report on the Toxicology and Carcinogenesis Studies of an Isomeric Mixture of Tris(chloropropyl) Phosphate Administered in Feed to Sprague Dawley (Hsd:Sprague Dawley® SD®) Rats and B6C3F1/N Mice: Technical Report 602. Research Triangle Park (NC): *National Toxicology Program*; 2023 Jun. DOI: 10.22427/NTP-TR-602 (online at: www.ncbi.nlm.nih.gov/books/NBK592952/)

Juleen Lam, et al. Developmental PBDE Exposure and IQ/ADHD in Childhood: A Systematic Review and Meta-analysis. *Environmental Health Perspectives*. Volume 125, Issue 8, CID: 086001. DOI: 10.1289/EHP1632. (Aug. 3, 2017) (online at: www.ehp.niehs.nih.gov/doi/10.1289/ehp1632)

Rosemary Castorina, et al. Current-use flame retardants: Maternal exposure and neurodevelopment in children of the CHAMACOS cohort. *Chemosphere*. Volume 189, Pages 574-580. DOI: 10.1016/j.chemosphere.2017.09.037. (Dec. 2017) (online at: www.sciencedirect.com/science/article/abs/pii/S0045653517314510?via%3Dihub)

Amy Standen, KQED, “It’s Official: Toxic Flame Retardants No Longer Required in Furniture” (Nov. 21, 2013) (online at: www.kqed.org/science/11318/its-official-toxic-flame-retardants-no-longer-required-in-furniture)

R. Gill, et al. Trends in flame retardant levels in upholstered furniture and children's consumer products after regulatory action in California. *Chemosphere*. Volume 351, 2024, 141152, ISSN 0045-6535. DOI: 10.1016/j.chemosphere.2024.141152. (March 2024) (online at: www.sciencedirect.com/science/article/pii/S0045653524000456)

Consumer Reports, “Get cancer-causing chemicals out of cars” (May 2024) (online at: www.action.consumerreports.org/nb-20240507flameretardants)

Consumer Petition to NHTSA hosted by Consumer Reports at [CR.org](https://www.consumerreports.org)

Petition to National Highway Traffic Safety Administration:

We urge you to update the 1971 flammability standard FMVSS 302, which applies to fabrics, foams and other materials inside the vehicles. A new study confirmed that cars across the U.S. contain toxic flame retardant chemicals, including known carcinogens and neurotoxins, in order to meet this standard. Every day, people are exposed to these chemicals inside their cars.

These chemicals will only delay fires for seconds, and when they burn, the flame retardants create additional smoke, soot, toxic gases, dioxins, and furans, which are the main causes of fire deaths and contribute to firefighter cancer.

It is well past time to update this harmful and ineffective standard that leads to daily toxic exposures for everyone who rides in cars—especially infants and children who spend many hours in car seats. Please launch an effort immediately to develop a better flammability standard that doesn't expose us to these harms.