October 6, 2021

Steven Cliff, Deputy Administrator
Ann Carlson, Chief Counsel
National Highway Traffic Safety Administration
1200 New Jersey Ave. SE
Washington, DC 20590

The Center for Auto Safety (CAS) writes today to direct the agency’s attention to Nissan dashboards that degrade over time in warmer environments, resulting in a number of potential safety concerns. This problem has generated almost one hundred consumer complaints to us, and over a thousand to the National Highway Traffic Safety Administration (NHTSA).

CAS requests that the agency review the issues presented herein and take steps to ensure that the components of vehicle interiors pose no safety threat to drivers, passengers, or anyone else using the roads.

**Consumer Complaints**

CAS has regularly received complaints on degraded Nissan dashboards for the past decade. Currently we receive more complaints on Nissan dashboards than on any other subject. These complaints cite various negative consequences including difficulty driving safely due to glare, interior stickiness, and foul odors.

Below are just a few examples of consumer quality and safety concerns, often outside of Florida, as well as efforts to remedy the problem.

**Patty in Fort Worth, Texas:** “I purchased this used car in June 2021 for my 16-year-old daughter and upon purchasing this 2010 Nissan Maxima, nothing appeared to be damaged on the vehicle. When the temperatures outside became extremely hot, I noticed the dash putting a strong glare on windshield, so strong it was actually too dangerous for my daughter to drive her car! With that said, I started trying to figure out what was causing the glare and it was when I noticed the dash was actually real sticky, it was from the ingredient to hold the dash together, the heat was causing the chemical to rise through the dash which made the dash melt, it also puts off odor in the car. My main concern is the glare on the windshield and the odor in the car, both are not good!!!”

**Cherie in Lexington, South Carolina:** “Melting dashboard which is causing a glare when driving. Very uncomfortable when driving since it gives you a false sense or distortion when you are trying to drive or park. Safety hazard and this issue needs
to be addressed by Nissan. Who would purchase a car that is not backed by its car makers?"

**Justin in Alabama:** “The dashboard in our 2008 Altima is melting. It is ultra sticky and isn't cleanable at all. It wreaks of a chemical smell and also puts a glare on the windshield in certain lighting. It's a mess, and it's dangerous. There was a class action lawsuit filed for the issue in Florida and Nissan fixed the Altimas there. It gets just as hot in Alabama...”

**Demetria in Katy, Texas:** “My dashboard is melting and giving out a foul odor when it gets hot, Have been trying to get Nissan to take care of this but they refused.”

**Malcolm in Miami, Florida:** “My 2008 Nissan Altima Dashboard has melted from the sun. I started to notice this problem around 2010. I never paid it any mind because I thought it was something that happened when a car has gotten detailed. I was walking pass another car one day with the same problem. I did a search on the internet and found that there is a major defect with this model year. The dash has become very sticky and shiny and also causes a odor of melting plastic. This has become a major safety issue. the sun reflects off the dashboard and create a glare that impairs your vision while driving. I reached out to Nissan and they declined to resolve the issues. they said they are aware of the problem but cannot do anything due to the car is out of warranty. I made complaints and still the problem is not resolved. I now have to buy a new dashboard to resolve the issues.”

**Adam wrote** “is melting, secreting chemicals making the dash stick, un-cleanable and very shiny. The glare on the windshield is caused by the shiny secretion from the dash materials of construction, causing very dangerous driving conditions and serious safety concern. Car cannot be driven on sunny days. Dealers refuse to do anything about it except charge more than $2,000 to replace. But issue will probably happen again. Cannot sell this car with this safety issue unresolved.”

Even a cursory look at NHTSA’s consumer complaints data raises significant concerns, as more than 1,000 complaints have been lodged with the agency. In fact, there are over 700 complaints of dashboard problems just on 2007-2013 Nissan Altimas. Many owners report having received little assistance from Nissan to rectify their complaint. Below are but a few of the concerns relayed by Nissan owners:

**A Miami, Florida Altima owner alleges that dash glare caused an accident:** “In February 2013 I had a frontal car accident due to the glare on my windshield of my melting dash board on my 08 Altima. my dashboard seems to be melting without no reason. Dealer will not replace defective dashboard as it is not part of a recall. This is a serious issue which may cause a serious accident raven death to a motorist

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1 NHTSA Complaints Spreadsheet, October 2021, [https://docs.google.com/spreadsheets/d/1E8wrMUH21IXIRjeWvCEDU02gVCiuXC_ahejBpIyjW/edit#gid=0](https://docs.google.com/spreadsheets/d/1E8wrMUH21IXIRjeWvCEDU02gVCiuXC_ahejBpIyjW/edit#gid=0)
or pedestrian. Nissan needs to make a recall on this issue, it is obvious that this was a defect on their behalf for the majority of 08 Altimas.

In Kenner, Louisiana, an owner complains that their “Dashboard, steering wheel, and shift handle have all melted from heat. the dashboard has become almost liquified, and the glare from the now shiny surface creates a reflection on the windshield, creating a safety hazard. the steering wheel has become gummy, making steering unsafe, and the rubbery material on the shift handle has become gummy, making it difficult to safely shift gears accurately.”

An Altima owner in Pelahatchie, Mississippi writes, “The dash of my 2008 Nissan Altima coupe has melted so severely that it's almost impossible to drive in the daytime. The material once melted becomes extremely sticky and dangerously reflective. what I mean by reflective, is that when the sun shines, it reflects so much light from the dash to the front windshield right into my, the driver, eyes. the reflections are extremely and dangerously blinding which makes it very difficult to see the road or anything else for that matter! Not to mention the glue like surface that makes it impossible to put something on the dashboard to try reducing the deadly reflections! The manufacturer's defective product is extremely dangerous to the direct safety of myself and my family and every other motorist, pedestrians, animals etc.”

Waukesha, Wisconsin is not far enough north to avoid heat degradation: “The dashboard is starting to melt. I thought it was just dirty, but in fact, when I tried cleaning it, a sticky glue type substance came up. This has become a safety hazard as the shiny glare shines on the windshield making it hard to see. I did a basic search on the internet to find out that this is a common issue with my vehicle.”

Even folks from Nissan’s adopted home state of Tennessee cannot catch a break: “The dashboard is melting and turning to goo and now is also crumbling. I started contacting Nissan Corp. approx 3 years ago. I have attempted to file 3 claims and all have been denied. The dealership agrees that the dashboard is defective but states since the car is out of warranty they can't help. The dashboard puts off a glare that is a safety hazard, especially on sunny days. This is the same issue that a lawsuit filed in Texas and Florida resulted in the dashboards. There is also an odor at times and the vapor leaves a film on the windshield. You can't clean the windshield because the rags or paper towels stick to the goo. This issue is a safety hazard. I have researched and have found multiple consumers are experiencing the same issue and have been denied by Nissan. the Nissan rep would not even allow me to speak with her supervisor or anyone in charge. she simply said I have presented your information and our decision is final getting replaced. Basically I was told that I am not part of the Florida or Texas suit so sorry about your luck. Nissan did say that if I wanted to buy a new car they would offer me a special deal. Really why would I buy something from a company that knows the dashboards are defective.

NHTSA has received complaints regarding degraded Nissan dashboards from Hawaii to
Wisconsin and from California to Connecticut, and even two complaints from armed forces personnel stationed in Europe. This raises a concern as many of the reports cite drivability and safety issues, and many of these vehicles remain on America’s roads, presumably in some state of degradation depending on just how often or how long the vehicle has been exposed to hot temperatures. While the most often reported hazard is glare, the state of these vehicle interiors raises questions about other potential hazards, whether it be in safety systems that are contained in or near the dashboard, or chemical exposure due to materials failure.

**Glare Hazard**

The lethality of hazardous reflective glare has been previously reported, and CAS sees no reason to wait for more such reports before action is taken. “Glare is a sensation caused by bright light in one’s field of view. Glare can reduce one’s ability to see, create feelings of discomfort or both.” Many recent dangerous, debilitating glare problems in the driver’s line of sight associated with so-called “melting” dashboards on Nissan vehicles have been reported. CAS continues to receive numerous consumer complaints, including some as recently as this week, about Nissan vehicles with so-called “melting” dashboards characterized by a chemical smell, and a sticky, shiny exudate on the dashboard. These complaints to CAS have origins in Alabama, Arizona, Arkansas, Florida, Georgia, Kentucky, Louisiana, North Carolina, South Carolina, Tennessee, and Texas, and include both Nissan Altima and Maxima models from model years 2008 - 2012.

A class action lawsuit seeking replacement of defective 2008-2009 Nissan Altima vehicle dashboards was settled in 2017. In settlement of the class action lawsuit, Nissan agreed to subsidize replacement dashboards (consumer cost was $250) for its Altima customers but in only one state (Florida) and only for a short interval on relatively new cars (purchased or leased new or used 2008 or 2009 Nissan Altima on or before April 1, 2017). Yet, Nissan then refused to replace equally defective dashboards in older Altima cars or in its other brands and models that are frequently owned by less affluent owners. As has been made clear by the locations and dates identified in complaints to CAS and NHTSA, this action fell far short of addressing the full geographic and temporal scope of the problem. The settlement provided no relief for consumers with similarly defective dashboards in 2008-2009 Altima vehicles in any state other than Florida, or for other models, or other model years.

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3 Life-threatening motor vehicle crashes in bright sunlight, Redelmeier et al., Medicine, Jan. 2017, [https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5228668/](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5228668);


There are many aging Nissan vehicles still on the road that have not had their defective and potentially dangerous dashboards replaced. As Bureau of Labor Statistics studies have found, the purchase of a used vehicle is often greatly influenced by age, race, gender, and income level demographics. Allowing so many used vehicles to remain on the road with a defective dashboard would appear to be an example of inequality of access to automotive safety based on differences among different income and demographic groups. Such a circumstance is not only bad corporate policy but also runs counter to the spirit of equitable access to safety sought by NHTSA’s implementation of Executive Order 13985, “Advancing Racial Equity and Support for Underserved Communities Through the Federal Government.”

**Regulatory & Enforcement Approach**

Reflective glare was previously addressed by the (now rescinded) FMVSS 107 Reflecting Surfaces, one of the original automotive safety standards. That standard specified reflecting surface requirements for certain vehicle components in the driver’s field of view. In NHTSA’s formal denial of CAS’s 1998 petition for reconsideration of the rescission of FMVSS 107, the agency justified its decision based on the following:

> In the NPRM, NHTSA stated its belief that market forces continue to favor matte finishes and surfaces for components in the driver’s field of view, and are reinforced by product liability concerns. As evidence of the impact of these factors NHTSA cited the virtual disappearance of horn rings and metallic windshield mountings and the use of matte finishes on unregulated components.

> Since 1987, vehicle interior styling practices have favored a combination of hard plastic and other materials that do not reflect sufficient light to create glare. NHTSA stated its belief that market forces will continue to favor these materials in the future.

> In the NPRM, NHTSA tentatively concluded that although it believed future market forces would favor nonreflecting surfaces, it was possible that motor vehicle designs, styles, and preferred materials would change. If such changes should result in motor vehicle components that may produce distracting glare in the driver’s line of sight, NHTSA stated that it “intends to review the situation” through its statutory authority over safety related defects. *(emphasis added)*

Clearly, in the case of the Nissan dashboards, the selected materials produce, post-certification, a highly reflective surface in hot climates and not the matte surface envisioned by NHTSA in its decision to rescind the FMVSS. This conclusion is confirmed by the Florida class action.

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7 Request for Information on Transportation Equity Data, DOT, 5/25/2021, [https://www.transportation.gov/equity-RFI](https://www.transportation.gov/equity-RFI)
settlement, consumer complaints to CAS, consumer complaints to NHTSA, and by the previously cited television news reports. The documented incidents of highly reflective dashboard surfaces in Nissan vehicles severely undermine the rationale for rescinding FMVSS 107, and clearly provide NHTSA sufficient rationale to “…review the situation” under the agency’s explicitly stated rescission rationale.

As CAS noted over two decades ago, reliance on market forces was both implausible and counter to the rulemaking record in making safety decisions. NHTSA’s further reliance on “product liability concerns eliminating the need for [FMVSS 107’s] requirements” has proven to be misplaced. Vehicle designs should not rely on the projected ex post facto consequences of product liability litigation but should instead depend upon regulations and performance requirements in force when manufacturers are making design decisions. The overreliance upon presumptive market forces and product liability concerns noted by NHTSA clearly failed to produce the safe outcome projected by NHTSA in its rescission of FMVSS 107. Further undermining the rationale for FMVSS 107 rescission as documented over time, NHTSA’s blanket statement that “The agency could find no information showing that dashboard reflections constituted a safety hazard,” is contradicted by NHTSA’s own studies and reports, third party studies, and class action litigation settlements previously cited.

When NHTSA rejected the reconsideration of its FMVSS 107 rescission, it left open the possibility that the decision could be reviewed upon further evidence being provided. Now is the time for NHTSA to use its authority to review the situation and take appropriate action utilizing both its enforcement and regulatory authority.

From a regulatory perspective, it is worth noting that Nissan vehicles are not unique in experiencing this issue. Toyota vehicles beginning in 2003 had a similar problem that obstructed vision due to glare and sticky dashboard surfaces. There are pending class action lawsuit alleging the same problem in certain Mazda and Toyota vehicles. Similar “melting dashboard” and other plastic cockpit component complaints have been reported for GM, Nissan, Lexus and Subaru vehicles resulting in additional class action lawsuits.

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9 Id.
10 Id.
11 Id.
15 Class Action Lawsuits for Sticky, Melting Dashboards, https://www.classaction.org/melting-dashboards-lawsuit
However, from our review, it would appear Nissan is the most frequent offender of this issue. Therefore, after a formal investigation, should the agency determine there is a safety hazard, it should order the recall and replacement of the subject Nissan dashboards with glossy, reflective dashboard surfaces. The glare hazard, the numerous reports of identical glare problems in Nissan products in other states, models, and model years not included in Nissan’s class action settlement, the EO 13985 initiative to eliminate automotive safety hazards arising from differential income and demographics, and NHTSA’s own statements and studies suggest that the agency should move quickly to investigate this hazard. Further, the agency should monitor the use of interior materials and their accelerated environmental material tests to eliminate materials that create a hazardous glare after manufacturer certification so that such defects are resolved before they unreasonably impact motor vehicle safety.

**Beyond Glare**

The dangers of glare and its impact on driving safety have been well established. NHTSA’s studies have shown that glare is the second most common environmental factor in crashes. Yet, glare is not the end of the faulty “melting” dashboard hazard story. (To be clear, the dashboards are not actually melting, they are progressively changing into a new material that has neither the original surface finish, original material properties, nor originally designed configuration.)

Polyvinyl chloride (PVC) is a common material used in plastic dashboard designs. To create desired material properties PVC used in dashboards, and many other products, includes plasticizers and other chemicals. One commonly used chemical family of plasticizers are phthalates.

When plastics get hot, the phthalates leech [sic] out. The haze that films the inside of our windshields consists of phthalates that have “evaporated” out of interior plastics and collected on the glass. Long-term phthalate loss accounts for dashboards becoming increasingly brittle and splitting.

Environmental heat in hot climates including, but not limited to the southern tier of the United States, evidently induces leaching of chemicals from the dashboards of Nissan products, as it did in Toyota products, causing their original matte surfaces to become sticky and glossy. As discussed in the previous section, the combination of incident light, glossy dashboard surface induced by the exudate can obscure a driver’s view of other vehicles and pedestrians and contribute to collisions. In addition to the glare problem, however, progressive plasticizer migration out of a dashboard’s plastic substrate has at least two more potentially major safety

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Critical Reasons for Crashes Investigated in the National Motor Vehicle Crash Causation Survey, [https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812115](https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812115);
Life-threatening motor vehicle crashes in bright sunlight, Redelmeier et al., Medicine, January. 2017, [https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5228668/](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5228668/);
17 Critical Reasons for Crashes Investigated in the National Motor Vehicle Crash Causation Survey, [https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812115](https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812115);
consequences.

**Airbag and Dashboard Interaction**

In addition to glare, a second major concern is modification of plastic substrate material properties caused by thermally-induced plasticizer exudation. Plastic becomes less pliable and more brittle when plasticizers are lost, changing their original structural properties.19 Airbags are designed to burst through plastic dashboard panels when deployed and will behave differently when the enclosing plastic dashboard properties change. Designing dashboards and other airbag release mechanisms is a demanding process that relies on knowledge of the airbag itself, on the material properties of the airbag enclosure, detailed analysis of airbag release dynamics, and validating tests. These tests are needed to prove that airbag activation does not cause the dashboard material to disintegrate and injure the vehicle occupants or create artifacts that can damage the airbag itself.20 Airbag enclosures including those in dashboards are carefully designed and machined to release airbags upon inflation and not damage the bag in the process of penetrating the dashboard enclosure. Successful deployment and dashboard penetration depend critically on the properties of the overlaid dashboard plastic material.

Exactly how the degraded dashboard material properties will affect airbag deployment dynamics is unknown due to an absence of applicable research and analysis into degraded dashboard plastic properties and their consequences. However, plastic degradation and embrittlement after prolonged exposure to hot environments is well established. The hazard potential of degraded airbag performance due to dashboard plastic degradation cannot be summarily dismissed pending results of applicable research into airbag performance in affected vehicles.

Dashboard interaction with interior components during deployment is critical both to ensure proper protection in the event of a crash, and to avoid unintentional injury to the occupant by vehicle interior components that are improperly situated. NHTSA has overseen numerous recalls where these situations occur,21 and should ensure that the Nissan dashboard deformation does not interfere with proper airbag deployment and prevents occupant injury because of out-of-position interior parts.

**Unnecessary Exposure to Hazardous Chemicals**

A third major concern is the potential health hazard associated with human exposure to plasticizers, particularly phthalates. Phthalates that may be absorbed by humans are known to leach from PVC and other plastics22 that are likely included in the Nissan dashboards. The

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20 *Static and dynamic simulations for automotive interiors components using ABAQUS*, Olivero et al., 2012 [SIMULIA Community Conference](https://imechanica.org/files/Olivero_Fiat_final_2242012.pdf)

21 *See NHTSA Recalls 91V215, 96V211, 97V107, 04V551, 10V145, 13V456, 14V563, 14V624, 17V062, 18V593, 18V806, 20V152, 20V273, 20V274, and 20V633.*

reported glossy dashboard exudate likely contains concentrated plasticizers, potentially including phthalates, that have leached out of the plastic substrate.\textsuperscript{23}

There is an extensive literature on human phthalate exposure and its health impacts including a Consumer Product Safety Commission report, the Chronic Hazard Advisory Panel (CHAP) on Phthalates documenting phthalate health impacts in 2014.\textsuperscript{24} The Guardian reported:

Name a major public health concern over the past two decades and there’s likely some link to phthalates exposure.

In the past few years, researchers have linked phthalates to asthma, attention-deficit hyperactivity disorder, breast cancer, obesity and type II diabetes, low IQ, neurodevelopmental issues, behavioral issues, autism spectrum disorders, altered reproductive development and male fertility issues.\textsuperscript{25}

It has not yet been confirmed that the “melting” Nissan dashboard exudate is rich in phthalates but, since phthalates are a common PVC plasticizer, since PVC is a common component of dashboards, since phthalate exudation from PVC in hot climates is well established, and studies of other modern cars have shown elevated phthalate levels in summer weather, it is a valid concern.\textsuperscript{26} Pending chemical analysis of the Nissan dashboard exudate, and with its potential for a phthalate-rich composition, consumers and regulatory authorities should be concerned about the phthalate exposure health risks of Nissan dashboards in hot climates. “The human body absorbs phthalates through the skin, orally, or through the lungs.”\textsuperscript{27} Videos documenting glare show consumers touching the shiny windshield exudate or ‘goo’ with unprotected skin.\textsuperscript{28} Deposition of volatile organic compounds on the windshield exacerbating the glare from reflected light shows that those chemicals are abundant in the vehicle cabin. The position of defroster vents will cause fans to blow the chemical-laden air directly toward front seat passengers’ faces where any such chemicals would be inhaled.

The CDC has said that some phthalates exposure can occur from breathing phthalate particles in the air.\textsuperscript{29} Disturbingly, a recent article documented ongoing concerns about the deleterious health effects of phthalate exposure, including male reproductive organ development, delayed language

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  \item \textsuperscript{23} \textit{Supra} at FN 18.
  \item \textsuperscript{24} Report to the Consumer Product Safety Commission, by the Chronic Hazard Advisory Panel on Phthalates and Phthalates Alternatives, July 2014: \url{http://www.cpsc.gov/PageFiles/169902/CHAP-REPORT-With-Appendices.pdf}
  \item \textsuperscript{25} \textit{Phthalates are everywhere, and the health risks are worrying. How bad are they really?}, The Guardian, February 10, 2014, \url{https://www.theguardian.com/lifeandstyle/2015/feb/10/phthalates-plastics-chemicals-research-analysis}
  \item \textsuperscript{26} \textit{Investigation of volatile organic compounds and phthalates present in the cabin air of used private cars}, Environmental International, November 2009, \url{https://www.sciencedirect.com/science/article/pii/S0160412009001779}; \textit{Air quality inside motor vehicles’ cabins: A review}, Research Gate, November 2016, \url{https://www.researchgate.net/publication/310466891_Air_quality_inside_motor_vehicles’_cabins_A_review}
  \item \textsuperscript{27} \textit{Supra} at FN 18.
  \item \textsuperscript{28} \textit{Supra} at FN 4.
  \item \textsuperscript{29} U.S. Centers for Disease Control and Prevention, \textit{Phthalates Factsheet}, April 5, 2021, \url{https://www.cdc.gov/biomonitoring/Phthalates_FactSheet.html}
\end{itemize}
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development, and early onset puberty.\textsuperscript{30} While the U.S. has prohibited phthalate use in some products, there is currently no prohibition on using this chemical in vehicles in the U.S.,\textsuperscript{31} yet automotive use of phthalates has been banned in EU countries.\textsuperscript{32}

**Conclusion**

Hundreds of complaints to the agency about a persistent and potentially dangerous problem and NHTSA’s own studies contradict NHTSA’s stated rationale for rescinding a previous FMVSS constraint and should be more than enough reason for NHTSA to take action. CAS recommends NHTSA evaluate the glare hazard caused by the thermal degradation of the Nissan dashboards, the impact of dashboard material degradation and its potential impact on air bag deployment, and the risk of repeated and prolonged exposure to hazardous chemicals including phthalates caused by these dashboards to ensure that no unreasonable safety risk exists.

Moreover, in light of steadily rising temperatures across the country, the current approach by Nissan to only address these potential safety issues for vehicles in Florida or for Nissan’s luxury line, is bad for public safety and public policy.

Given the ample evidence contradicting the rationale for the agency’s rescission of a safety standard regulating vehicle interior glare and NHTSA’s acknowledgement of a duty to review the situation if its rescission rationale is defective, NHTSA has a duty to explore the question of whether these dashboards present an unreasonable risk to motor vehicle safety. The potential for risk only builds that these dashboards continue to degrade and more vehicles are affected due to exposure. Additionally, NHTSA should consider reviving and revitalizing FMVSS 107 to prevent vision hazards from arising due to poorly formulated vehicle components in the future.

Thank you for your attention to this matter,

Sincerely,

Jason Levine
Executive Director

cc: Annie Collins, Associate Administrator for Enforcement
Joseph Kolly, Chief Scientist and Acting Admin Enforcement
Stephen Ridella, Director, Office of Defects Investigation
Ryan Posten, Associate Administrator, Rulemaking


\textsuperscript{31} 15 U.S.C. Sec. 2057c.

\textsuperscript{32} EU Enacts Additional Phthalate Restrictions, Carra and Lamotte, JD Supra, January 11, 2019, [https://www.jdsupra.com/legalnews/eu-enacts-additional-phthalate-93134/](https://www.jdsupra.com/legalnews/eu-enacts-additional-phthalate-93134/)
Cem Hatipoglu, Associate Administrator, Vehicle Safety Research
Otto Matheke, Director, Office of Vehicle Safety Compliance