

Doug Parsons (7101M)
Senior Policy Advisor
Office of Pollution Prevention and Toxics
US Environmental Protection Agency
1200 Pennsylvania Ave NW
Washington, DC 20460-0001

Re: Critical Use Exemption Request for Phenol, Isopropylated, Phosphate (3:1) in Heavy-duty, Industrial Equipment Uses; Docket: EPA-HQ-OPPT-2021-0202

Dear Mr. Parsons:

The Association of Equipment Manufacturers (AEM)¹ appreciates the opportunity to comment on the Environmental Protection Agency's (EPA) *Regulation of Persistent, Bioaccumulative, and Toxic Chemicals Under TSCA Section 6(h); Request for Comments*,² hereafter referred to as the Final Rule. We look forward to working more closely with EPA to share the expertise and technical knowledge of our industry sectors. We believe it is critically important when developing regulations, that the interests of all stakeholders be considered and understood.

The Final Rule places an incredibly heavy burden on AEM's member companies representing manufacturers of construction, agriculture, forestry, mining, and utility equipment. If the equipment manufacturing industries do not receive relief from the current requirements promulgated in the Final Rule, it is extremely probable that our member's North American equipment manufacturing facilities, employing roughly 2.8 million workers and generating an estimated \$288 billion in value per year, will need to shut down at the end of the "No Action Assurance" period on September 4, 2021.³ On behalf of our members, AEM requests that EPA grant our industries relief under TSCA Section 6(g) regarding the continued use of Phenol, Isopropylated Phosphate (3:1) (PIP (3:1)) in heavy-duty, industrial equipment applications. Additionally, AEM seeks clarification from EPA with respect to the recycled plastics exemption. The following comments provide additional information supporting these requests.

Section 6(g) Exemption:

TSCA section 6(g)(1) provides that the EPA may grant an exemption from a requirement of section 6(a) for a specific condition of use of a chemical substance if:

¹ AEM is the North American-based international trade group representing heavy-duty off-road equipment manufacturers and suppliers with more than 1,000 member companies and over 200 product lines in the construction, agriculture, mining, forestry and utility industries. The equipment manufacturing industry in the United States supports 2.8 million jobs and contributes roughly \$288 billion to the economy every year. Our industries remain a critical part of the U.S. economy and represent 12 percent of all manufacturing jobs in the United States. Our members develop and produce a multitude of technologies in a wide range of products, components, and systems that ensure heavy-duty off-road equipment remains safe and efficient, while at the same time reducing carbon emissions and environmental hazards. Finished products have a life cycle measured in decades and are designed for professional recycling of the entire product at the end of life. Additionally, our industry sectors strive to develop climate friendly propulsion systems and support robust environmental stewardship programs around the world.

² 86 Federal Register 14398, March 16, 2021

³ The foregoing does not consider the impact of the Final Rule on non-North American based equipment manufacturers who sell their products in the U.S., nor does it consider the impact on U.S. consumers arising from the unavailability of critical goods.

- A. The specific condition of use is a critical or essential use for which no technically and economically feasible safer alternative is available, taking into consideration hazard and exposure;
- B. Compliance with the requirement, as applied with respect to the specific condition of use, would significantly disrupt the national economy, national security, or critical infrastructure; or
- C. The specific condition of use of the chemical substance or mixture, as compared to reasonably available alternatives, provides a substantial benefit to health, the environment, or public safety.

AEM will illustrate that PIP (3:1) provides critical use features for applications in our products for which no technically and economically feasible safer alternative exists; that compliance with the Final Rule, as written, will significantly disrupt the national economy; and that the use of this chemical, as compared with alternatives, provides substantial health and safety benefits.

Alternatives:

It is unclear if there are any technically and economically feasible alternatives for PIP (3:1) that do not compromise safety, durability, or reliability in heavy-duty, industrial use equipment. AEM members produce equipment designed to voluntary consensus safety standards and subject to third party certifications, customer requirements and regulatory testing obligations. Changes to materials and formulations which may affect fit, function, performance, or safety must undergo extensive testing to ensure the new design meets internal quality benchmarks, design specifications, as well as regulatory requirements. The sheer variety of applications and functionality of PIP (3:1) makes it difficult to estimate the time needed to identify, test, and qualify alternative chemical substances for each end use.

Traditional design cycles for AEM members' products are seven years from initial design to market entry. This includes time needed to identify whether and to what extent the chemical exists in the supply chain, confirm function of the regulated substance for end use application, discover alternatives, design-out the banned chemical, build supply chain discipline, test for safety, regulatory, and quality requirements, sell through existing inventory, and re-introduce the product into the market.

Testing requirements often take the longest time to complete during this transition phase. Heavy-duty, industrial equipment operates in some of the most demanding and severe operating conditions over a product life cycle measured in decades. Such equipment is subject to various fire safety and flammability regulatory requirements set by the National Highway Traffic Safety Administration,⁴ the Occupational Safety and Health Administration,⁵ the Mine Safety and Health Administration,⁶ the Department of Transportation,⁷ the Federal Railroad Administration,⁸ and the Consumer Product Safety Commission.⁹ Additionally, engine emission sensors designed for off-road equipment to comply with the Clean Air Act, currently rely on PIP (3:1) to survive the high-temperature environment in the engine compartment. Any proposed alternative materials will

⁴ Flammability Test for Motor Vehicle Interiors, 49 § C.F.R. 571.302(1998)

⁵ Fire Protection and Prevention, 29 § C.F.R. 1926.24(2000), Fire Prevention, 29 § C.F.R. 1926.151(2001)

⁶ Fire Resistant Hydraulic Fluids, 30 § C.F.R. 35(2012), Requirements for the Approval of Flame-Resistant Conveyor Belts, 20 § C.F.R. 14(2008), Fire Protection 30 § C.F.R. 75.1100, Fire Protection, 30 § C.F.R. 77.1100, Fire suppression systems for diesel-powered equipment and fuel transportation units, 30 § C.F.R. 75.1911

⁷ Recommended Fire Safety Practices for Rail Transit Materials Selection, U.S. Department of Transportation,

https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/NASFM_Recommended_Practices.pdf, 2008

⁸ 49 CFR 216, 223, 229, 231, 232, 238 – Passenger Equipment Safety Standards – correct citation

⁹ Flammable Fabrics Act, Public Law 83-88; 67 Stat. 111, June 30, 1953

require expensive and time-consuming in-house and third-party certification testing (See Appendix A for detailed description of current testing time horizons) before the product can satisfy the current regulatory standards governing its safety and performance.

Several documents cited during the NPRM notice and comment period mentioned potential alternatives to PIP (3:1) already introduced in commerce.¹⁰ AEM member companies have no evidence that these substances can withstand the extreme conditions under which heavy-duty, industrial equipment operate. While some of these substances may prove effective at replacing PIP (3:1) in some end use applications, AEM member companies are still required to perform the years of necessary testing to confirm their viability. Furthermore, based on one NPRM comment regarding the use, and presence, of PIP (3:1) in cyanoacrylate monomer adhesives found in many original equipment manufacturer (OEM) products, there is no current economically feasible alternative to PIP (3:1) for use in that application, proving the difficulty of adopting alternative chemistries into current products and production processes.¹¹

Compliance Issues:

AEM's members are deeply concerned that without relief granted by the EPA, the Final Rule as currently written, will have a devastating impact on U.S. manufacturing. Following the promulgation of the Final Rule on January 6, 2021 AEM member companies sought to confirm whether and to what extent PIP (3:1) is contained in the products placed on the U.S. market by our industries. The existence of PIP (3:1) was confirmed via a thorough evaluation of our member's raw materials, components, and subassemblies through a major survey initiative in the supply chain. The resulting analysis identified the presence of PIP (3:1) in, but not limited to, the following applications, parts and components:

Fire prevention systems, engine emission control systems, electronic components, wiring harnesses, hydraulic hoses, switches, fabrics, PVC, throughout the engine compartment, hydraulic fluids, lubricants, sealants, greases, adhesives, resin in fiberglass components, oils, paints, elastomers, foam, resistors, splitters, alarm components, automatic tire inflation equipment, protective PVC caps and covers, and wire sleeving.

AEM's survey revealed that PIP (3:1) is widely used by our OEMs and suppliers as a material critical to safety, durability, and emissions compliance in heavy-duty, industrial equipment. The survey analysis also revealed a variety of significant obstacles our industries face if they are required to comply with the Final Rule in its current form. Survey results show that at least 85% of companies surveyed either cannot confirm the presence of or know of viable alternatives to PIP (3:1) for use in their products. Knowing that PIP (3:1) is found throughout the wider heavy-duty, industrial equipment supply chain, and present in almost all our products, this education gap will lead to widespread non-compliance throughout our industries, threatening to shut down an entire sector of the U.S. economy.

The lack of awareness among suppliers presents a unique issue for the heavy-duty, industrial equipment industry. Adjacent industries, such as the automotive sector, maintain exclusive access

¹⁰ EPA and Israel Chemical Ltd. (ICL) Meeting on Phenol, Isopropylated phosphate (3:1) in D. Parsons (Ed.) (July 28, 2019) <https://www.regulations.gov/document/EPA-HQ-OPPT-2019-0080-0187>, ICL's Additional Comments to EPA Docket for: Phenol, Isopropylated phosphate (3:1) (January 12, 2018) <https://www.regulations.gov/document/EPA-HQ-OPPT-2019-0080-0304>, Persistence, Bioaccumulation, Environmental Hazard and Human Health Hazard Ratings for Alternatives to PBT Chemicals Proposed for Regulation, US EPA, July 28, 2019, <https://www.regulations.gov/document/EPA-HQ-OPPT-2019-0080-0208>

¹¹ Comments submitted by Martina Werner, Director Product Safety & Regulatory Affairs, Henkel Corporation, Oct 28, 2019 <https://www.regulations.gov/comment/EPA-HQ-OPPT-2019-0080-0538>

to a substance monitoring technology, called the International Material Data System (IMDS). The IMDS is used to monitor the chemical composition of goods sold through the automotive supply chain. This system took a tremendous amount of time and money to fully implement. There is no equivalent type of system in place for the heavy-duty, industrial equipment manufacturing industries.

Absent a technology solution, widely adopted across the heavy-duty, industrial equipment industries, that can track and monitor chemical substances throughout the supply chain, it will remain extraordinarily difficult, if not impossible, for a single OEM to know the chemical composition of the finished goods they sell in the U.S. market. In addition, many chemical manufacturers and processors frequently hide the chemical identities and concentrations of their products as valuable trade secrets. Smaller manufacturers of components often do not store chemicals above the reporting thresholds required under the CDR or Sara 313 reporting requirements, creating enforcement and educational issues throughout our supply chains.

Compounding this issue; many international suppliers do not have mandated chemical reporting requirements, nor do they currently have prohibitions on the use of PIP (3:1) in their home countries. Many international companies may choose to stop providing parts to their U.S.-based manufacturing customers if the Final Rule remains in place, choking off a large section of the U.S. supply chain. This circumstance leaves OEMs with no, or low quality, chemical data and unable to accurately assess their compliance risks regarding chemical management rules. AEM member companies strongly support the development of a chemical reporting and tracking program throughout the supply chain, but the industry does not have a system like the IMDS, and the process of widespread adoption would take several years to fully implement.

Furthermore, the equipment industry faces many of the same safety, design, manufacturing, and purchasing issues that other adjacent industries face. This means AEM member supply chains often overlap with much larger industries, such as the automotive and aerospace sectors. AEM's survey of our members' supply chains found that 61% of the surveyed suppliers also provided parts and materials to the automotive industry. Despite the significant overlap in suppliers, there are key differences in the product design lifecycles and volumes between industries. Heavy-duty, industrial professional use equipment is decidedly lower volume with a higher diversity of products than those found in the consumer vehicle market. Whereas passenger cars may revise designs every few years, professional and industrial use equipment may be in production for decades with much longer operational lifespans. With the exemptions currently granted to the automotive sector, the heavy-duty, industrial equipment OEMs' supply chains will legally be able to provide to automotive OEMs components that contain PIP (3:1). With the much higher variability of products and lower volume nature of our industries, heavy-duty, industrial equipment OEMs will need to utilize custom made parts which, if available, can cost between 2-10 times the normal price of products exempted from the Final Rule. These supply chain conditions will make compliance with the Final Rule a costly and near-impossible goal to achieve, leaving the entire heavy-duty, industrial equipment industry vulnerable to non-compliance.

Finally, replacement parts present a unique challenge for the heavy-duty, industrial equipment industry. Products placed on the market are designed for interoperability with other systems. These products are intended to operate and remain fully functional for decades, using specifically designed replacement parts. Replacing components can render entire systems and assemblies useless, which in turn can render obsolete (or the operation of which illegal) an entire product line in the field. To illustrate, designing the PIP (3:1) out of the engine control module may fundamentally change the design of the component, risking the obsolescence of the product. Furthermore, the inability to provide the interoperable replacement part would then jeopardize the

functionality of the emission control systems in products currently employed in the field, risking non-compliance with the emission requirements of the Clean Air Act.

If the prohibitions in the Final Rule remain, and the heavy-duty, industrial equipment manufacturing industry does not receive any relief from the EPA, the OEMs will need to shut down once the enforcement moratorium expires to remain compliant with the PIP (3:1) prohibitions. This development will immediately threaten roughly 2.8 million U.S. jobs, and approximately \$288 billion per year to the overall economy.

Workplace and Operator Safety Concerns:

PIP (3:1) is a proven flame retardant used in a wide variety of work site situations and product types. PIP (3:1) has often been considered a viable and safer alternative to halogenated flame retardants such as deca-BDE and other polybrominated biphenyls. Halogenated flame retardants and polybrominated biphenyls are currently being phased out, restricted, or banned in global markets, while availability and production of PIP (3:1) has remained high due to continued demand for fire-safe products. AEM requests that EPA consider the potential harm to worker safety that the prohibition of PIP (3:1) may cause.

As stated in the Alternatives section above, heavy-duty, industrial equipment is subject to a variety of regulatory and safety requirements. Most of the compliance issues concerning PIP (3:1) involve fire safety standards. In the severe and demanding environments that heavy-duty, industrial equipment operate in, fire presents a unique challenge for OEMs and the users of our equipment. These risks include compressed gas, HazLoc operations, engine fires, electrical fires, and gas leaks. Fire hazards remain the most common and highest safety risk faced in our industries and for the operators of our equipment. Various Federal agencies require testing and certification to address these concerns, and PIP (3:1) provides a proven method to meet these safety standards and obligations (see footnotes 2-7 for testing rules). With no known alternatives to PIP (3:1), the current restrictions promulgated under the Final Rule will risk the operability of our equipment's fire suppression systems putting worker safety at risk.

General Comments on the Final Rule:

AEM supports the EPA's exemption of articles made from recycled plastics containing PIP (3:1). OEMs design products with end-of-life considerations in mind. These designs allow large scale recycling of the product at the end of its operational life. The use and availability of recycled materials is crucial to the continued operation of the equipment market. Furthermore, the allowance of recycled materials containing PIP (3:1) helps ensure the regulated substance remains bound inside the finished good, and out of waterways and the wider environment.

Conclusion:

PIP (3:1) serves vital safety and performance functions in heavy-duty, industrial equipment. This substance is used extensively throughout our industries for its fire suppression characteristics required to meet legal, safety, and quality requirements. As established in the preceding sections, AEM's members face immediate and enormous challenges in meeting the compliance requirements of the Final Rule. The lack of known technically or economically feasible alternative substances, various supply chain knowledge and compliance obstacles, and the potential dangers to worker safety, all threaten to disrupt and shut down the entire heavy-duty, industrial equipment manufacturing industry. For these reasons AEM requests that:

1. EPA grant the heavy-duty, industrial equipment manufacturing industry exemption relief under TSCA section 6(g); or
2. If EPA does not grant exemption relief under TSCA 6(g), allow the heavy-duty, industrial equipment manufacturing industry a transition period of seven years to facilitate the work required to phase PIP (3:1) out of their products; as well as
3. Grant the heavy-duty equipment manufacturing industry an exemption from the recordkeeping and labelling requirements for the duration of the granted exemption; and
4. EPA grant the heavy-duty, industrial equipment manufacturing industry relief provisions similar to those given to adjacent industries, such as automotive and aerospace; and
5. EPA continues to grant the exempted relief to recycled materials containing PIP (3:1).

AEM Appreciates your consideration of these comments.

Please feel free to contact me at Jmalcore@aem.org if you have any questions or require any further information.

Best Regards,

A handwritten signature in black ink, appearing to read "Jason Malcore", with a long horizontal flourish extending to the right.

Jason Malcore
Director, Global Standards & Compliance
Association of Equipment Manufacturers (AEM)