May 17, 2021

Office of Pollution Prevention and Toxics
U.S. Environmental Protection Agency
1200 Pennsylvania Ave. NW
Washington, DC 20460

Submitted online via the Federal eRulemaking Portal: http://www.regulations.gov

Re: Docket ID No. EPA-HQ-OPPT-2021-0202-0001 - Regulation of Persistent, Bioaccumulative, and Toxic Chemicals Under TSCA Section 6(h)

The Consumer Technology Association™ (CTA), IPC, and Information Technology Industry Council (ITI) respectfully submit these comments on behalf of the approximately 5,000 member companies including printed circuit board manufacturers, electronics manufacturing services, cable and wire harness manufacturers, electronics industry suppliers, original equipment manufacturers, retailers, innovators, and information and consumer technology leaders. Collectively, over 80 percent of the companies represented by our membership are small and medium-sized businesses and start-ups. Our members represent the complex, global supply chain of electronics – what our members make is used in thousands of articles across dozens of industry sectors, including products found in homes and businesses across the world.

CTA and ITI submitted written requests to EPA in January and February 2021 (see enclosed comments), for a targeted extension of the compliance dates, and CTA, IPC, and ITI engaged directly with the EPA in early March 2021, regarding the compliance timeframes for the Final Rule for Phenol, Isopropylated Phosphate (3:1) (PIP 3:1), 86 Fed. Reg. 894 (Jan. 6, 2021), pursuant to Section 6(h) of the Toxic Substances Control Act (TSCA). We sincerely appreciate EPA's responsiveness to the electronics industry's concerns raised over the past several months, including the issuance of the 180-day No Action Assurance affirming that the EPA will exercise its enforcement discretion regarding the prohibitions on processing and distribution of PIP (3:1) for use in articles, and PIP (3:1)-containing articles. This was a critical short-term solution to avoid the removal of articles from store shelves and negative impacts on industry and the U.S. economy.

The September 4, 2021, expiration of the 180-day No Action Assurance, however, is not sufficient for a full phase-out of PIP (3:1) from the electronics supply chain. Therefore, CTA, IPC, and ITI respectfully make the following requests.

EPA Should Implement a "Manufactured By" Compliance Date for Articles No Sooner than 48 Months with Additional Exemptions and Clarification.

The electronics industry has confirmed that PIP (3:1) is used in electronic components and finished goods. Member companies require a practicable and reasonable period of time to ensure compliance and the transition to alternatives. Therefore, the EPA should implement a "manufactured by" compliance date of

no sooner than 48 months from the effective date of the revised final rule for articles[1]. We propose the following regulatory text:

> § 751.407(a)(2) *Phase-in Prohibitions for Specific uses of PIP (3:1) and PIP (3:1)-containing articles*.
>
> (iii) After [*insert 48 months from effective date of revised final rule*], all persons are prohibited from all manufacturing of PIP (3:1) for use in articles and PIP (3:1)-containing articles.

In addition, CTA, IPC, and ITI request the following:

- Establish an adequate de minimis concentration for the prohibition.
- Exempt spare and replacement parts for any finished good manufactured prior to the "manufactured by" compliance date.
- Exempt the use of PIP (3:1) in chemical substances, mixtures and articles for research and development (R&D) purposes to allow entities to test and compare alternatives.
- Exempt the use of PIP (3:1) in monitoring and control instruments.
- Clarify the application of the existing exception for adhesives and sealants as it applies to adhesives applied to electronics components or incorporated into finished products.
- Clarify the definitions for and applicability of the terms "article" and "product" in the context of risk management rulemaking for existing chemicals under TSCA.

In the sections below we will outline the justifications for the 48-month timeframe as a reasonable transition to alternatives for PIP (3:1) in electronic components and finished goods, as well as provide additional details related to the exemption requests for spare and replacement parts, for research and development applications, and test and measurement instruments. Initially, we want to outline the importance of a "manufactured by" date based on alignment with other regulatory activities establishing reasonable timeframes as well as the *de minimis* concentration request.

48 Months Compliance Time

There is international precedent for the 48 month compliance timeframe under both the European Restriction of Hazardous Substances in Electrical and Electronic Equipment 2 (RoHS 2) Directive and the European Chemical Agency's (ECHA's) Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) regulation impacting articles. CTA, IPC and ITI request a harmonized approach with existing EU-based directives and regulations for the phase down, phase out, or sunset of chemicals undergoing risk management actions. To achieve this harmonization, the revised Final Rule for PIP (3:1) and future TSCA risk management regulations should set a compliance deadline at four (4) years from the effective date of the Final Rule.

The four (4) year timeframe is also consistent with EPA's approach for adhesives and sealants under the Final Rule for PIP (3:1). In the example of adhesives and sealants imported into the U.S., EPA provided a four year "reasonable period of time to transition to alternatives"[2]. EPA noted that, while alternative

[1] The 48 months is longer than the 24 months requested by CTA and ITI in our January and February 2021, letters to EPA. This is the result of information gathered by member companies during the past several months as they have coordinated with their supply chains. The initial request was based on limited information gathered over the course of only a few weeks at the beginning of 2021.

[2] We acknowledge the four (4) years is a distribution in commerce prohibition and not a "manufactured by" prohibition.

flame retardants may be available, time is required to recertify new formulations to required safety standards. This "reasonable period of time" is needed for the use of PIP (3:1) in all applications, not just adhesives and sealants.

"Manufactured By" Compliance Date

CTA, IPC and ITI recommend EPA establish "manufactured by" compliance dates for the regulation of articles. The "date" over which industry has the most control of the manufacturing, distribution and retail chain is the "manufactured by" date. Manufacturers and EPA have the ability to determine compliance as these "manufactured by" dates can be confirmed based on unique product identifiers such as lot or serial numbers which are often marked on the finished goods.

Manufacturers are not able to control the date of import and in some cases have no access to such information. Electronic components and finished goods need approximately one week to be processed for export from their country of origin, if applicable. Shipment via boat or air to the U.S. can take upwards of 40 days depending on conditions. Processing to complete import into the U.S. typically takes an average of six or seven days. However, under COVID-19 conditions of the past year, import processing times have extended to upwards of 20 days based on member experience. These delays are beyond the control of a manufacturer as are any delays that may occur throughout the entire shipment and import process. Additionally, some companies may import through warehouses in "free trade zones". While inventory in these warehouses is physically located in the U.S., the inventory is not considered fully imported to the U.S., adding yet another layer of complexity to the import process.

A distribution in commerce date is also outside the control and visibility of the manufacturer. Retailers purchase products based on their contractual relationships with a manufacturer or distributor which typically includes provisions relating to compliance with applicable U.S. regulations and laws. Retailers do not have control over how quickly products are sold and do not necessarily operate under a "first-in, first-out" operation adding to the challenge of inventory management. Different finished goods have different sell through timelines and manufacturers and retailers can only estimate those timeframes. Additionally, manufacturers deal with customer returns, damaged packaging returns, and other returns which result in the sale of "refurbished" finished goods. While the regulations acknowledge articles previously sold and/or supplied to consumers are out of scope, neither retailers nor manufacturers are equipped to identify the differences among these "refurbished" finished goods and new finished goods.

A prohibition in commerce date means a finished good on retail shelves can be compliant one day and out of compliance the next. The result is retailers would need to scrap finished goods or export the product back to the original manufacturer (where is also may be scrapped). In either scenario, there is significant resource loss and an increase in environmental impacts as the materials and resources utilized to create the finished goods are lost and additional resources are utilized to create the new finished good to replace it. A better and more realistic path forward that avoids the unintended consequence of disposal or recycling is to avoid compliance dates associated with distribution in commerce.

The difficulty retailers face is particularly acute because TSCA imposes strict liability on retailers, but retailers often lack the information necessary to determine if the items in their store are compliant. The industries that supply or partner with retailers have identified concerns with the Final Rule for PIP (3:1) and such concerns trickle down to retailers, particularly as retailers face potential strict liability and high penalties for sale of PIP (3:1)-containing articles. Retailers can act where they have knowledge, but the TSCA regulations do not provide retailers with knowledge upon which to act. Imposing strict liability is particularly challenging for articles, which have multi-tiered supply chains over which retailers have no

visibility and limited leverage. If new laws or regulations pass in the middle of a contract with unreasonably quick compliance timeframes, retailers would be forced to rely on a manufacturer or other supply chain participant notifying them to remove products from shelves.

In the Formaldehyde Emission Standards for Composite Wood Products rule (40 CFR Part 770), the EPA recognized that "EPA could not realistically expect those laminated product producers that are currently regulated under CARB only as fabricators to attain compliance with this rule's testing and certification requirements." As mentioned above, the supply chain for the electronics industry is even more complex. Because of this, and due to the reasons mentioned above, a "manufactured by" prohibition date for articles establishes a reasonable and certain compliance date for all stakeholders.

***De Minimis* Concentrations**

As noted later in these comments, TSCA generally prohibits the regulation of articles and replacement parts unless there is a specific risk evaluation that finds an unreasonable risk associated with articles and replacement parts. We recognize that EPA has taken a different interpretation and respectfully request that EPA exempt from regulation articles that contain only a de minimis level of PIP (3:1). We suggest that EPA establish a de minimis level of 0.1% (by weight), or less. This level is consistent with the threshold established in EPA's export notification regulations for known or suspected carcinogens subject to regulation under TSCA Section 6.[3] We note that: (i) EPA is not requiring export notification for articles under the PIP (3:1) rule and (ii) EPA has not identified PIP (3:1) as a known or suspected carcinogen. Nevertheless, the export notification regulations provide a useful benchmark for substances subject to regulation under Section 6, and we expect that, with respect to PIP (3:1)-containing articles, potential exposure to the substance at this de minimis level will be negligible.

This threshold is also consistent with REACH and Restriction of Hazardous Substances in Electrical and Electronic Equipment 2 (RoHS 2) Directive in the European Union, as well as existing state flame retardant chemical restrictions. These restrictions recognize declarations against *de minimis* levels and/or against specific volumes or quantities being imported. It is resource intensive (time and cost) to demonstrate the complete absence of a chemical if there is no threshold to make that determination. As such, we request EPA to establish a de minimis concentration.

Estimated Impacts

For those companies that have been able to determine the presence of PIP (3:1) in their supply chain, there are significant financial implications of the current prohibition on the sale of finished goods without adequate time to transition to alternatives. One company with one product line of an electronic device estimated that current inventory valued at $76M USD would need to be scrapped if reasonable transition time for alternatives is not allowed. Another company with multiple electronic device categories impacted estimated current inventory to be valued over $200M USD. Yet another company with one impacted device category stated it would cost $75M - $100M USD to rework finished goods already in distribution channels or that have been manufactured but are awaiting import. It is even more difficult for retailers to identify the estimated impact on the products sold in their stores.

These numbers exemplify the value of the finished goods currently in the market; companies would also incur costs for recycling and disposal if they are unable to sell finished goods along with their inventory of repair and replacement parts. This is a significant negative environmental consequence that would result

[3] *See* 40 C.F.R. § 707.60(c)(2).

from inefficient time for regulatory transition. One company estimated the costs for recycling the inventory on hand (including finished goods and repair and placement parts) would be over $20M USD for just one finished good category.

Complex supply chains for electrical and electronic products

Since publication of the Final Rule for PIP (3:1) on January 6, 2021, the members of our respective trade associations have worked to identify the presence of PIP (3:1) within their supply chain. This process has been challenging for a variety of reasons.

- **Supply chains for articles focus on material declarations.** The electronic products (aka finished goods) our members produce are composed of complex parts and components sourced on a worldwide market. Companies do not receive a list of every chemical found within each part or component that ultimately goes into a finished good because ingredient lists are highly proprietary and confidential. Rather, companies specify functionality, performance, safety and quality specifications of a part or component to their supply chain. This also includes specifications regarding restriction of chemicals that can be found within that part or component under the company's chemical management program.

  Under these programs, companies establish lists of restricted chemicals based on a government restriction or if the company implements its own restriction on a given chemical. Given most electronics are distributed on a worldwide basis, restricted chemical lists typically are applicable across worldwide jurisdictions or, potentially, in specific regions of the world that govern a typical electronics market. Suppliers are provided lists of restricted chemicals (set to the threshold or de minimis level established by either a government or the company) on at least an annual basis, if not more frequently as warranted by a triggering event (e.g., new government restriction). Suppliers are notified of the lead time for the restriction of the chemical and any testing that may be required. The supplier then begins the process of restricting the chemical and communicating with their own downstream suppliers. This process takes several years as outlined below.

- **PIP (3:1) is not regulated anywhere else in the world and phase-out is complex.** PIP (3:1) remains largely unregulated throughout the world. For example, the European Chemicals Agency (ECHA) has only recently listed PIP (3:1) as under assessment as a persistent, bioaccumulative, and toxic (PBT) chemical with no announced restrictions to date.[4] The International Electrotechnical Commission (IEC) standard 62474 declarable substances list (IEC 62474 DSL) specifies the substances, substance groups and material classes that need to be included in material declarations. The IEC 62474 DSL and related standards that refer to this DSL, such as the IPC-1752B materials declaration standard, are commonly used in the industry, but are not required for use. As of the end of April 2021, due to its regulation by EPA, the IEC 62474 DSL was updated to include PIP (3:1) and, as a result, suppliers that declare material content against this DSL will now begin to evaluate the presence of intentionally-added PIP (3:1) and report that through their supply chain. This is the first instance in which PIP (3:1) is included in an electronics-related reporting schema for materials declaration and it should help to facilitate the ability to identify and communicate information about the presence of intentionally-added PIP (3:1) in electronics components and finished goods. However, the recent addition to the DSL will require time for

[4] European Chemicals Agency. Substance Infocard: Phenol, isopropylated, phosphate (3:1). Accessible at: https://echa.europa.eu/substance-information/-/substanceinfo/100.066.404.

companies to incorporate the updated DSL into their declaration processes as well as time to survey their supply chain for the necessary information.

The electronics industry and its supply chain use material declarations to track and declare specific information about the material composition of components. Material declarations are tools to communicate information that allow a purchaser of that part or component to comply with regulatory requirements like those set forth in the European Union's RoHS 2 Directive and REACH regulation.

We do not highlight the fact that PIP (3:1) is not regulated elsewhere as a comment on EPA's decision to regulate PIP (3:1) as a PBT chemical under Section 6(h) of TSCA. Rather, we raise this to highlight the fact that many, if not most, companies only began the process of identifying PIP (3:1) within their supply chains as of January 6, 2021, when EPA issued the Final Rule. EPA is the first government agency in the world to regulate PIP (3:1), meaning supply chains are only very recently starting to adjust to the restriction of this chemical.

In the case of PIP (3:1), companies have been engaged in the complex task of surveying their supply chains for the presence of a previously non-restricted chemical. As noted above, a company typically adds a chemical to its restricted chemicals list with sufficient notification in advance of its phase out. For example, a chemical phase out in response to restriction in the European Union under the RoHS 2[5] is typically effective four years from the date of notice by the EU. As you are already aware, EPA granted a four-year compliance extension for adhesives and sealants under the PIP (3:1) Final Rule to "allow for a reasonable period of time to transition to alternatives."[6]

Even as of the date of these public comments, not all companies have been able to complete a full survey of all suppliers to determine the presence of PIP (3:1). Typically, a survey of the use of a chemical within the supply chain takes between six (6) months to one (1) year. Many member companies set aggressive survey response timeframes of one (1) month for their suppliers when the Final Rule was initially published. Even with aggressive communication to the supply chain to attempt to meet the initial survey response timeframes, many companies are still struggling to confirm the presence of PIP (3:1) and many suppliers are requesting extensions on manufacturer survey deadlines as they cannot complete their assessment within the aggressive timetables set by our members. Other companies are receiving updated confirmation of the presence of PIP (3:1) in various components and finished goods three (3) to four (4) months after the original survey deadline. The supply chain has been challenged given that PIP (3:1) is not regulated in any other jurisdiction around the world and EPA did not establish in the Final Rule a test method to test for the presence of PIP (3:1). Without an established test method to confirm the presence of PIP (3:1) on a standardized basis, companies are struggling to predict what test method may be valid to confirm the presence of PIP (3:1).

Companies have first-hand experience in transitioning their product lines to keep up with changes to declarable substances lists and restricted substances lists. It is anticipated that for PIP (3:1)-

[5] Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment

[6] Response to Public Comments: Regulation of Persistent, Bioaccumulative, and Toxic Chemicals under Section 6(h) of the Toxic Substances Control Act. Section 3.3.5. Page 81.

containing products, the product certification documentation will need to be updated due to the number of suppliers, the number of formulations, or the number of finished good affected. Changes to formulations will require new part numbers to assure material segregation and to support inventory management and all these changes will need to be reflected in the certification documentation, especially for those with safety-critical components. Changes to a common component, e.g., primary wiring, is anticipated to impact a significant number of component and finished good certification documents, exceeding current electronics workforce capacity and certifying-body capacity to manage the increased workload. So, in addition to the estimated time for the phase out/phase in process, the breadth of affected products can lead to extended timelines in the certification process, the length of which are difficult to estimate.

- **Supply chains for electronics are complex and multi-layered.** Electronic finished goods manufacturers have anywhere from 2,500 to upwards of well over 5,000 suppliers. Each of those suppliers may provide the components that go into upwards of 5,000 finished goods on average. This translates to upwards of 100,000 or more individual components that go into those finished goods sourced from various suppliers. Surveying the entire supply chain to merely confirm the presence of PIP (3:1) within products, let alone phase the chemical out of the supply chain, is a significant undertaking.

  These suppliers can be located across multiple regions of the world and can be several layers separated from a manufacturer. For example, a manufacturer may receive a cable as a finished part that goes into a sub-assembly that ultimately gets installed in a finished good. That cable includes wiring that is held within a sleeve or a cover that may contain PIP (3:1). The supplier that manufactures the sleeve or cover for the wiring is already several tiers removed from the manufacturer of the finished good. The finished good manufacturer is even further removed from the raw material supplier of the PIP (3:1). Other more complex parts potentially have two to ten times the level of supply tiers and/or multiple suppliers for the same component.

  Manufacturers do not typically require suppliers to monitor or report on the use of every single chemical in every single component. As such, when surveys went out regarding the use and restriction of PIP (3:1), a direct supplier to a manufacturer began checking with their suppliers that checked with their suppliers and so forth. There has been a significant time lag in getting information back to the manufacturer of the finish goods regarding the presence of PIP (3:1). Reasonable implementation timelines that are responsive to the complexity of the electronics industry supply chains; enable industry to effectively communicate and plan with their supply chain; and ensure successful transition to chemical alternatives that have been validated are critical.

Use of PIP (3:1) in electronic finished goods

Several CTA, IPC and ITI member companies have identified the use of PIP (3:1) in the supply chain of electronic components and finished goods. This includes the presence of PIP (3:1) in components that may have utility in dozens of electronic equipment applications including aerospace, automotive, defense, heavy equipment, home appliances and medical equipment as well as traditional electronic devices. As noted above, during this 60-day comment period, companies have been receiving updated information from their supply chains regarding the presence of PIP (3:1) while other companies are still coordinating with their supply chain and awaiting confirmation of the presence of PIP (3:1) or its absence. It is also difficult for manufacturers and suppliers to confirm the absence of PIP (3:1) without an established test

method to rely upon. As such, the information received to date does not cover all anticipated PIP (3:1)-containing components and finished goods.

The below is a list of known components as well as electronics finished goods where the use of PIP (3:1) has been confirmed.[7] This list should not be viewed as exhaustive. Additionally, many member companies produce finished goods outside of the traditional electronics category and purview of our respective trade associations. We strongly encourage EPA to reference comments from various trade associations representing finished goods that may incorporate electronic components.

- Components:
    - Insulation covers / sleeves and other components used in conjunction with internal and external cables (e.g., PVC cables, ground cables, and switch intel cables) and wirings. Includes:
        - Terminal covers
        - Fuse covers
        - Cable sleeves
        - Tubes
        - Casings
        - Harnesses
        - Clamps used with cables
        - Float switch
        - Connectors (housing)
    - Internal and external cables including but not limited to power cables, HDMI cables, connection cables, USB cables, etc.
    - Components used to shield / protect from electromagnetic waves in conjunction with circuit boards and other components inside electronic devices. Includes:
        - Condenser covers
        - Internal tapes
        - Gaskets
        - Sheets
    - Components used for the electronic designs of semiconductors
    - Electronic drive units
    - Adhesives / Sealants (e.g. epoxy used for encapsulation of capacitors)

- Finished Goods[8]:
    - Televisions
    - Desktop PCs
    - Blue-ray disc recorders / players
    - Professional video monitors
    - Displays
    - Broadcast equipment
    - Projectors
    - Portable speakers and audio devices

[7] We have chosen to segregate components from finished goods for simplicity of discussion. We recognize that each of these ultimately is considered an article under TSCA.
[8] Note: Many member companies produce finished goods outside of the traditional electronics category. The list provided may include overlap with other trade associations representing the interests of that industry sector.

- Camcorders
- Professional and consumer cameras
- Semiconductor manufacturing equipment
- Electronic microscopes
- Audio / stereo equipment and home theater equipment (e.g., audiovisual receivers, speakers)
- Professional audio / sound reinforcement equipment (e.g., digital mixers, amplifiers)
- Musical instruments (e.g., digital pianos, electric guitars, portable keyboards) as well as sound recording and reproduction technologies
- Radiation detectors
- Laser market sensors
- Office imaging equipment
- Professional monitoring and control instruments

If helpful, the below are the commonly utilized NAICS Codes for the above listed finished goods. Again, this list should not be viewed as exhaustive for the reasons noted above.

- 334 Computer and Electronic Product Manufacturing
- 335 Electrical Equipment, Appliance ad Component Manufacturing
- 3931 Musical Instruments
- 4234 Professional and Commercial Equipment and Supplies
- 4236 Household Appliances and Electrical and Electronic Goods Merchant Wholesalers
- 8812 Electronic and Precision Equipment Repair and Maintenance

The above confirms that PIP (3:1) is present in articles. EPA stated in its Response to Public Comments: Regulation of Persistent, Bioaccumulative, and Toxic Chemicals under Section 6(h) of the Toxic Substances Control Act that "there is little evidence to suggest that PIP (3:1) is present in commercial and industrial articles" as a justification for why additional compliance time was not needed for articles.[9] Indeed, additional time for compliance to remove PIP (3:1) from articles is critical.

Use of PIP (3:1), Safety Certifications, Concentrations and Alternatives

Purpose/Functionality:
PIP (3:1), a halogen-free flame retardant that operates at a high level of efficiency, is primarily utilized as an additive flame retardant or as a flame retardant with plasticizer qualities in the components listed above. PIP (3:1) is sometimes used as a suitable alternative to halogen-containing flame retardants. Electronic finished goods are unique compared to other articles. The components – cables, wires, connectors, etc. – contained within these finished goods carry electrical currents that can generate heat and serve as a potential ignition source. The same is true for power sources such as batteries that also serve as potential internal ignition sources. Since many of the components are contained within plastic, manufacturers utilize flame retardants in the plastic to mitigate the risk of fire and meet flammability standards.

Safety Standards:
There are a multitude of safety standards applicable to the components and finished goods listed above. In many instances, both the component as well as the finished good are subject to safety standards and certification, such as UL standards. When a "critical" component such as a power cable (and most, if not

[9] Section 3.12. Page 93.

all the components listed above would be considered "critical") undergoes design changes, the component and ultimately the finished good would need to be recertified to the standard. As it relates to the removal of PIP (3:1), the redesign of the component for either an alternative flame retardant, alternative plasticizer, and/or other potential design option will require recertification which could be applicable for both the component as well as the finished good.

Components and finished goods meeting Nationally Recognized Testing Laboratory (NRTL) approval are contractually obligated to maintain a safety-critical parts list and undergo regular audits by the NRTL. Multiple updates to product safety files can be envisaged since it will not be possible to assess all component or finished goods changes impacting the safety-critical parts list – component or finished goods producers may have their own timelines for transitioning resulting in unconsolidated file changes and extending the overall timeline.

PIP (3:1) is used in some resins as a flame retardant in dip materials that meet UL94 parameters and sometimes referred to as a UL-recognized material. It is likely that any materials using this or other UL-recognized materials (e.g., reference UL file number E58538) may meet UL94 parameters by incorporating PIP (3:1) in the formulation. The total number of dip molding or other overmolding or insert molding resins used and the total number of electronic components manufactured using these resins is unknown. One company identified more than 60 model numbers that indicate the use of a UL-recognized material. These model numbers are for electronic components such as miscellaneous polymeric tubing that may be used in hundreds of end products. It is expected that any change to the materials will necessitate a determination that it meets the UL94 parameters.

Applicable standards include but may not be limited to[10]:

- Standards for electrical and electronic components:
  - UL94: Tests for Flammability of Plastic Material for Part in Devices and Applications
  - UL224: Extruded Insulating Tubing
  - UL310: Electrical Quick-Connector Terminals
  - UL486: Wire connectors and soldering lugs for use with copper conductors
  - UL498: Attachment Plugs and Receptacles
  - UL510FR: Standard for Polyvinyl Chloride, Polyethylene, and Rubber Insulating Tape
  - UL758: Appliance Wiring Material
  - UL1059: Terminal Block
  - UL1863: Communication Circuit Accessories
  - UL1977: Components Connectors for Use in Data, Signal, Control and Power Applications
- Standards electrical and electronic finished goods:
  - UL1004-1: Rotating Electrical Machines - General Requirements
  - UL1419: Standard for Professional Video and Audio Equipment
  - UL60065: Standard for Audio, Video and Similar Electronic Apparatus - Safety Requirements
  - UL60950-1: Information Technology Equipment - Safety - Part 1: General Requirements
  - UL 61010-1 Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use
  - UL61800-5-1: Adjustable Speed Electrical Power Drive Systems - Part 5-1: Safety Requirements - Electrical, Thermal and Energy

[10] Several UL standards have applicable requirements for components that are separate from the requirements for the finished good. This is why certain standards appear in both the components and finished goods lists.

- UL 62368-1: Standard for Audio/Video, Information and Communication Technology Equipment - Part 1: Safety Requirements

While PIP (3:1) is not specifically required by these standards, the utility as a plasticizer and flame retardant enables formulators and manufacturers to meet flexibility and flammability/flame retardancy specifications through the use of PIP (3:1). The removal of PIP (3:1) as a result of the final rule means companies must assess and determine alternative chemicals and/or product designs that can meet flexibility standards, flammability standards, and performance requirements. Any major change to the design of a component and finished good may require full recertification; other times it may be a simple review. For example, a cable that provides power or input/output functions is likely to be determined "critical" by a certification organization which would then require both the component and the finished good to undergo full recertification.

Recertification to standards takes well beyond the 60 day timeframe provided in the Final Rule for PIP (3:1). The certification organization will determine the impact the alternative makes to the safety of the component or finished good and then determine if full retesting or partial retesting is needed. Retesting and recertification may be specific to just one area of certification or could require full retesting and recertification. A company will not know the process until they consult with the certification organization. There is also no set testing and certification timeline for standards; thus, the timeline will vary depending on the component and/or finished good. There is also a concern among industry that certification bodies may be backlogged, and certification timelines exacerbated by the multitude of new non-PIP (3:1) containing components and finished goods that will need to undergo retesting and recertification. At present, we do not have clarity into timeline impacts.

Even though safety standards, such as the UL standards noted above, are not required by government agencies to sell electronic finished goods to U.S. consumers and professional users, they are necessarily required from the market perspective. Manufacturers want to certify finished goods because safety is a top priority; companies don't want to sell a finished good without ensuring its safety. The vast majority of retailers in the U.S. require UL certification or the equivalent in order to sell electronic finished goods. This is to ensure the finished goods they sell meet a minimum set of safety standards. While the standards listed above are not legislative or regulatory requirements, they are widely market mandated in order to sell products within the U.S. via a retail setting and the retesting and certification process is a critical step impacting the phase out process of PIP (3:1) which is utilized to address safety concerns for electrical and electronic finished goods. Professional uses have similar market-driven obligations to provide third-party safety certification of their finished goods. Contracts between producers and the NRTL (e.g., UL) require that the product conforms to the listed safety standard throughout the production life, considering all part changes.

Concentration:
Not all companies that have confirmed the presence of PIP (3:1) have been able to obtain data regarding concentrations. For those that have, PIP (3:1) is found in a range of concentrations in various components. Below are examples provided by companies regarding the concentration of PIP (3:1) expressed as a percent of the overall material by weight in the component.

- PVC Materials (including terminal covers, fuse covers, tubes, casings): 3% - 14%
- Cable sleeves: 1 – 1.5%
- Harnesses: 1.1 – 1.5%
- Internal and External Cables: 1 – 4%
- Condenser covers: 3 – 4%

- Adhesives / Sealants: 0.25% (within conductive tape material); 11.8 – 12% (within the adhesive resin material)

Exposure and Releases:
Manufacturers do not typically maintain data regarding consumer exposure analyses of all chemicals contained within finished goods. As noted previously, manufacturers of electronic finished goods communicate to their supply chain a list of functionality, performance, safety and quality specifications along with providing a list of restricted chemicals. Assessment of exposure from a finished good would take significant time to compile only after the manufacturer confirms the presence of PIP (3:1).

As such, we do not have any specific data regarding exposure as companies are focused on removing PIP (3:1) from their supply chain and investment in an exposure analysis would be unwarranted at this point in time. The below are assumptions regarding exposure and releases as it relates to the presence of PIP (3:1) in components and finished goods of electrical and electronic products:

- Consumer exposure via use of the finished good:
  - Little to none given most components where PIP (3:1) is present are internal components that are not readily accessible or serviceable to the finished goods. Additionally, there is no intention for most of these components to be handled by the consumer or other end user of the finished good. Where components may be handled by the customer on a regular basis, such as cables, the components are handled for limited durations.
- Releases to the environment during consumer use of the finished good:
  - CTA, IPC, and ITI along with our member companies support the recycling of electrical and electronic equipment.
  - In terms of recycling, our members financially support electronics recycling programs throughout the U.S. to ensure products are handled in an environmentally appropriate manner, limiting potential releases to the environment from products. In fact, our members are regularly recognized by the EPA under the Sustainable Materials Management (SMM) Electronics Challenge as gold tier performers which requires the use of third-party certified electronics recyclers in an effort to minimize exposure to human health and the environment.[11]
- Worker exposure during the manufacturing of the component or finished good:
  - These data would need to come from either the material manufacturer or component manufacturer. Article manufacturers would not have access to these data and have not been able to obtain within the short timeframe since the Final Rule for PIP (3:1) was published.
  - Consistent with consumer exposure, exposure would be for limited durations and would only be through dermal contact, if at all.
- Releases to the environment during the manufacturing of the component or finished good:
  - These data would need to come from either the material manufacturer or component manufacturer. Article manufacturers would not have access to these data and have not been able to obtain within the short timeframe since the Final Rule for PIP (3:1) was published.

While we do not have any specific data to provide, exposure to chemicals contained within articles is assumed to be low given that these components rarely come into contact with consumers and then, only

[11] More information on the SMM Electronics Challenge is accessible via: https://www.epa.gov/smm-electronics/sustainable-materials-management-smm-electronics-challenge.

for a short period of time. It should be noted that PIP (3:1) is not considered a volatile compound and it is trapped in the polymer matrix; therefore, its release to the environment during the manufacturing process and normal use of an article is likely minimal.

Alternatives Assessment:
Manufacturers of components and then manufacturers of finished goods that contain those components will need to assess and determine the viability of alternatives specific to each use. Companies are unlikely to specify the use of any specific alternative except to ensure that any chemicals utilized are not on the restricted chemicals list provided by the manufacturer. Additionally, the supply chain is only very recently exploring alternative options to PIP (3:1) for use in components.

We are aware that the following chemicals are being assessed by members as possible alternatives to PIP (3:1) for use in certain applications. Where available, we note the anticipated concentrations of the alternative. In many instances, a higher concentration of an alternative is needed as compared to PIP (3:1) due to the high efficiency levels at which PIP (3:1) operates.

- Bromine-based flame retardants (5 – 10% by weight)
- Chlorine-based flame retardants (5 – 10% by weight)
- Diphenyl tolyl phosphate (MCS)
- Magnesium hydroxide (5 – 10% by weight)
- Aluminum hydroxide
- Phosphonic acid
- Tricresyl phosphate
- Isopropylated triphenyl phosophate (100,000 to 200,000 ppm)
- Cresyl diphenyl phosphate (100,000 to 200,000 ppm)

It cannot be stressed enough that component suppliers make the decisions around what alternatives to use for a component that meet a manufacturer's specifications (functionality, performance, safety, quality, avoidance of restricted chemicals) for the finished good. Manufacturers are concerned with the potential for regrettable substitutions that could be worse for human health or the environment due to the quick nature in which these changes are being assessed and made to ensure compliance with the September 4, 2021, expiration of the 180-day No Action Assurance. This supports our request for additional compliance time to adequately assess and vet alternatives to reduce the risk of regrettable substitution.

Reasonable period of time to transition to alternatives

Survey of Supply Chain
A manufacturer of an electronic finished good may have upwards of 5,000 suppliers for potentially 100,000 or more components across all product lines. As a first step after the Final Rule for PIP (3:1) was published, manufacturers began surveying their suppliers to determine the presence of PIP (3:1). As previously outlined, the process of surveying thousands of suppliers is a complex and significant undertaking which takes six (6) months to one (1) year to complete with any level of accuracy. Given that PIP (3:1) is not regulated by directives and regulations affecting the electronics industry, the longer one (1) year timeframe is realistic for the survey to be completed.

The effort to acquire supply chain restriction data on supplied components takes significant time to support a determination of compliance for finished goods distributed in commerce. Many companies do not have the capability to identify or confirm the PBT chemical composition of supplied parts, components

or finished goods without laboratory testing. Laboratory testing can run up to $5,000 per product and take up to one (1) month. Even then, the CAS Registry Number provided for PIP (3:1) is a mixture and may or may not show up in laboratory testing. Under these circumstances for PIP (3:1), manufacturers need to rely on material declarations as a more practicable and reliable approach to determine the usage of PIP (3:1) within a part, component or finished good.

Procurement and Assessment of Substitutes Parts with Suppliers
Once the use of PIP (3:1) has been declared by a supplier as present in a product, the supplier will need to work with its supply chain (whether material, part or component suppliers) to investigate and identify alternatives to the use of PIP (3:1) in order to meet the regulatory restrictions. This process is not as simple as a one-to-one substitution of another flame retardant and/or plasticizer. At each supplier level, the supplier must evaluate the impact of the alternative on functionality, performance, safety and quality of the component.

PIP (3:1) is used in electronic components for fire retardancy to meet safety standards related to flammability. Given that any alternative to PIP (3:1) will need to meet the same level of fire retardancy, a component that includes a PIP (3:1) alternative will need to be certified to the applicable safety standard. Those standards are outlined above. The timeline for retesting and recertification of the non-PIP (3:1) containing component will be determined by the certification organization. On average, manufacturers estimate that this process could take as little as three (3) months once the component is ready for testing to upwards of 24 months.

Once alternatives are identified within the supply chain, it is unclear whether there will be sufficient capacity for all of industry to transition to alternatives and manage these changes. At each step of the supply chain, there are greater demands as the diversity of suppliers increases; each has to respond to different timelines across different component families and across different suppliers. There may be an increased demand leading to this phase in the timeline spanning longer than anticipated. At present, no company has insight into precisely how significant a challenge this will be.

Internal Quality Assessments
Once a non-PIP (3:1) containing component is recertified and received by the manufacturer, the manufacturer will conduct its own internal quality assessments. The manufacturer will conduct an initial assessment on whether the component works, does it have the correct performance characteristics, and does it maintain brand integrity.

Once the basic parameters have been evaluated, the manufacturer will assemble the component into a finished good and conduct an overall quality assessment. Standard items evaluated in an internal quality assessment of a finished good can include:

1) Smoke and ignition testing
2) Leakage Current testing
3) Temperature testing
4) Pinch tests
5) Emissions testing
6) Allergy testing
7) Battery testing (discharge/voltage/circuit/electrolyte)
8) Ceiling and wall mount testing
9) Light emissions testing
10) Magnet testing

11) Electrolytic capacitor testing
12) Safety testing
13) Sulfurization testing
14) Evaluation (or assessment) of Fire Retardants
15) Power consumption testing
16) Drop testing
17) Copy Protection
18) Wireless testing
19) Connection testing
20) Incorrect Representation testing
21) Disclaimers for third-party products
22) Privacy testing
23) Software and License
24) Printing and display testing
25) Auditory testing
26) Remote control testing
27) Published specification validation

It is unclear whether all of the above assessments will need to be redone when replacing a component with a non-PIP (3:1) component. But the above provides a glimpse into the type of assessments that are done at the individual manufacturer level prior to outside, third-party certification. The estimated average time for internal quality assurance is three (3) to five (5) months.

Quality and Safety Certification
Once the component clears all internal quality assessments, the reworked finished good will be sent for third party certification. As noted previously, if the component is considered critical by the certification body, it is likely that full retesting and recertification of the finished good will be necessary. If the component is not deemed critical, the process could occur much faster as part of a renewal. However, we anticipate full retesting and recertification will be needed given the use of PIP (3:1) from a fire safety perspective and the types of components where PIP (3:1) is contained play critical roles in the finished goods.

Companies anticipate that sending the finished good to the certification body; assessment by the certification body; retesting; and ultimate recertification could take as few as six (6) months to upwards of 30 months. The variation is due to the exact finished good, the complexity of the standard, and the criticality of the component that was changed. For at least one member company, the certification timeline is every three years and off-cycle recertification is difficult to schedule given the ongoing process. For another member company, a minor change to an applicable safety standard previously took 30 months to transform the safety certification in their portfolio of affected finished goods.

We are concerned about potential backlogs at the certification stage since that there may be a multitude of finished goods needing retesting and recertification due to the phase out of PIP (3:1). Companies are looking into this concern but are not yet able to confirm how significant an issue this is since it is still early in the transition process.

Supplier Coordination and Manufacturing Changes
When a finished good with a non-PIP (3:1) containing component is recertified, the manufacturer can begin to procure the non-PIP (3:1) containing components. Suppliers will require sufficient time to begin

manufacturing the new non-PIP (3:1) containing components and shipping it to the manufacturer. Suppliers may or may not be located in the same country and/or region as the manufacturing center so time must be allotted for components to be imported and received.

Manufacturers will adjust their own manufacturing and assembly processes to accommodate the new non-PIP (3:1) containing part if necessary, depending on the changes made to the component and the impact on the finished good. An unreasonable compliance timeframe means that contracts may be severed resulting in revenue loss for the manufacturer as well as the supplier.

This entire process of managing existing stock, procuring new components, shipment of components, and manufacturing and assembling the finished good takes approximately 12 months. Once the finished good leaves the manufacturing facility, how long it takes to move through shipment, import, distribution and retail is beyond the control of the manufacturer. As outlined above, a "manufactured by" compliance date is within the control of the manufacturer of the finished good and should be the basis for the regulation of articles by EPA. A manufacture date is generally available from lot numbers or serial numbers affixed to articles.

Shipment, Import, Distribution in Commerce and Sale

If a "manufactured by" compliance date is not established and the "distribution in commerce" prohibition date remains, we request a minimum of 12 months to accommodate distribution in commerce. However, we defer to comments from others within the retail community as to whether 12 months is sufficient to move the finished goods identified in these comments through import, distribution and sale. As noted previously, shipment via boat or air to the U.S. can take upwards of 40 days and current import timeframes can take up to 20 days. We recognize that the time needed for distribution in commerce may vary greatly by finished good types and industries that may warrant additional conversations with EPA regarding the adequacy of a 12 month "sell thru" provision.

Summary of Compliance Timeline

The above details provide the justification for a 48 month (4 year) "manufactured by" compliance date. Each finished product may vary in where it falls within the below ranges and we are averaging the timeframes provided by member companies as well as requesting consistency with international precedent.

- Survey of Supply Chain: Range of six (6) to 12 months
- Procurement and Assessment of Substitute Parts with Suppliers: Range of three (3) to 24 months
- Internal Quality Assessments: Range of three (3) to five (5) months
- Quality and Safety Certification: Range of six (6) to 30 months
- Supplier Coordination and Manufacturing Changes: 12 months

If a "manufactured by" compliance date is not established, an additional 12 months at minimum should be provided to accommodate for shipment, import, distribution and sale by retailers.

Regulation of Articles

Section 6(c)(2)(E) of TSCA states the following (emphasis added):

> "Administrator shall apply such prohibitions or other restrictions to an article only to the extent necessary to address the identified risks from exposure to the chemical substance or mixture from the article so that the substance or mixture does not present an unreasonable risk of injury to health or the environment."

In the Final Rule for PIP (3:1), EPA did not conduct a risk assessment to determine "unreasonable risk" from the presence of these chemicals in articles. While TSCA Section 6(h) does not require a risk assessment for the agency to regulate PBT chemicals, Section 6(c)(2)(E) does require risk assessments to regulate articles. The complexity of supply chains and the undetermined risk of exposure from the presence in internal components are just two examples of why a risk assessment is a critical piece of the regulation of articles under TSCA. We strongly urge EPA to comply with the requirement of Section 6(c)(2)(E) to conduct risk assessments to determine exposure from the use of a chemical within an article prior to moving forward with any regulation.

Exemption for spare and replacement parts

CTA, IPC and ITI respectfully request EPA to provide an exemption for spare and replacement parts for any finished good manufactured prior to the regulatory deadline. This should extend to finished goods that have been repaired using these spare or replacement parts and are then placed back into the market. Without an exemption, companies will be forced to redesign repair and replacement parts for finished goods already in the market and, in some cases, which are no longer manufactured. Where re-design is viable, companies will be forced to dispose or recycle of all PIP (3:1) containing repair and replacement parts that can no longer be provided to U.S. consumers. In some instance, component and/or finished good re-design may not be viable, resulting in the forced end of life of the finished good rather than providing a repair or replacement part to extend the life of the finished good. Members are concerned with durability and longevity of their finished goods; we want to avoid early obsolescence due to non-complaint spare parts especially for long-life finished goods such as broadcasting equipment. As an example, one company indicated that at least 180 different types of spare and replacement parts would be unavailable for electronic finished goods as of the end of the No Action Assurance impacting both businesses and households. Many of these parts are for PIP (3:1) containing finished goods that are already discontinued in the manufacturing process but for which the company still provides spare and replacement parts.

Additionally, per California law[12], consumer technology companies that have sold electronics valued at $100 or more are required to "make available to service and repair facilities sufficient service literature and functional parts to effect the repair of a product for at least seven years after the date a product model or type was manufactured." At a minimum, given the law requires CTA's member to provide replacement parts, an exemption should be granted for repair and replacement parts for electronics for at least a seven-year time period once the compliance date is effective.

Many of the finished goods listed above have a longer shelf life of seven (7) years. In the European Union under the RoHS Directive[13], "spare parts for the repair, the reuse, and the updating of functionalities or upgrading of capacity" for finished goods placed into the market prior to the effective date of the regulations are exempt. The exemption for repair and replacement parts for finished goods is justified because it is i) required by law in California, ii) consistent with international regulations around spare and replacement parts, iii) necessary to ensure the longevity of electronic finished goods, and iv) important to

[12] California Civil Code § 1793.03

[13] Directive 2011/65/EU of the European Parliament and of the Council of June 8, 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (recast). Article 4. Section 4(f).

the performance and safety of the finished goods. The latter is the same justification used by EPA for its exemption for replacement parts of automobiles.[14]

Lastly, under section 6(c)(2)(D) of TSCA, it states the following:

> "The Administrator shall exempt replacement parts for complex durable goods and complex consumer goods that are designed prior to the date of publication in the Federal Register of the rule under subsection (a), unless the Administrator finds that such replacement parts contribute significantly to the risk, identified in a risk evaluation conducted under subsection (b)(4)(A), to the general population or to an identified potentially exposed or susceptible subpopulation."

In the Final Rule for PIP (3:1), EPA did not conduct a risk assessment to determine "that such replacement parts contribute significantly to the risk, identified in a risk evaluation". While TSCA Section 6(h) does not require a risk assessment for the agency to regulate PBT chemicals, Section 6(c)(2)(D) does require risk assessments to determine that "replacement parts contribute significantly to the risk…to the general population or to an identified potentially exposed or susceptible subpopulation." Section 6(c)(2)(D) specifically exempts replacement parts for "complex consumer goods" or "complex durable goods".[15] The finished goods identified in these comments would qualify as either complex consumer goods or complex durable goods and thus should be exempt.

Exemption for monitoring and control instruments

CTA, IPC, and ITI request that the EPA consider an exemption from the prohibition on the use of PIP (3:1) in monitoring and control instruments including industrial or professional monitoring and control instruments (NAICS 334515 Instrument Manufacturing for Measuring and Testing Electricity and Electrical Signals). Examples of these instruments, produced by the test and measurement industry sector, include analytical spectrometers, chromatographs, scanning and transmission electron microscopes, signal generators, spectrum analyzers, oscilloscopes, and infrared cameras and thermometers. This equipment is primarily built to order and sold directly to professional and industrial customers by the manufacturers. Individual instruments can be made up of 40,000 components. Producers of such instruments manage portfolios of up to 30,000 product and option combinations or 250,000 part numbers from approximately 100,000 different upstream manufacturers, some of which are considered specialty businesses.

To address the use of any one restricted substance in this number of product combinations or components will continue to be challenging for producers of "high mix, low volume" products, like monitoring and control instruments. This complexity was considered by the European Commission in their recast of the

[14] Response to Public Comments: Regulation of Persistent, Bioaccumulative, and Toxic Chemicals under Section 6(h) of the Toxic Substances Control Act. Section 3.3.3. Page 79. "EPA determined that prohibiting the processing and distribution of PIP (3:1) for use in replacement parts is not practicable because PIP (3:1) is used to meet safety standards in new and replacement parts for automobiles and there is currently no feasible alternative."

[15] Section 6(c)(2)(D)(ii):

(I) "the term 'complex consumer goods' means electronic or mechanical devices composed of multiple manufactured components, with an intended useful life of 3 or more years, where the product is typically not consumed, destroyed, or discarded after a single use, and the components of which would be impracticable to redesign or replace; and

(II) "the term 'complex durable goods' means manufactured goods composed of 100 or more manufactured components, with an intended useful life of 5 or more years, where the product is typically not consumed, destroyed, or discarded after a single use."

RoHS Directive in 2011[16], granting an extended timeline for compliance for medical devices and equipment and monitoring and control equipment. The greatest extension was allowed for professional and industrial monitoring and control instruments, which came under the scope of EU RoHS in July 2017.

Because of the industry's existing experiences with the RoHS Directive, they know that the process for surveying suppliers of direct materials incorporated into finished monitoring and control equipment took five years to complete and disrupted standard business practice because it required the hiring, training, and onboarding of additional technical staff. And, while it is estimated that the depletion of PIP (3:1)-containing finished goods will take on average six months, for measurement and control equipment the depletion of inventory will take longer. Specialized components can be purchased through the lifetime buy process: a common approach employed for electronic parts obsolescence management. If these components are determined to contain PIP (3:1), it can be difficult to recuperate from an unplanned, forced obsolescence; it can take more than a decade to design and produce specialty components. The estimated economic impact for the test and measurement industry sector associated with maintaining RoHS conformity is almost $5M USD annually and the costs associated with transitioning the low volume, high mix portfolio over the previous 12 years is estimated to exceed $1B USD. This estimate does not account for costs incurred by each upstream supply chain actor to conform with RoHS requirements for the components and subassemblies they produce.

An exemption will safeguard the continued manufacture, distribution, maintenance, and use of industrial or professional monitoring and control equipment in the U.S. and the financial viability of those companies comprising the complex, interconnected supply chain for this technical equipment.

Request for clarification on adhesives used in electronics components

CTA, IPC, and ITI request that EPA clarify the prohibition on processing and distribution in commerce of PIP (3:1)-containing adhesives and sealants. The current rule states that EPA is delaying the compliance date for the prohibition by four years such that the prohibition begins after January 6, 2025. The rule can be interpreted to mean that the chemical for use in adhesives/sealants and the adhesives/sealants products are both excused from the prohibition, but not the article onto which the adhesive/sealant was applied. We interpret the current rule to permit the use of adhesives/sealants onto our articles, but we would appreciate additional clarity from EPA.

Regardless of the extended compliance date, PIP (3:1) for use in adhesives and sealants and PIP (3:1)-containing adhesives and sealants in new or replacement parts for automobiles or aerospace are excluded from the general prohibition. The rule can be interpreted to mean that all new or replacement parts for automobiles or aerospace that use these adhesives/sealants are forever excused from the prohibition.

During the 60-day comment period, we learned that PIP (3:1)-containing epoxies are used as adhesives for encapsulation of capacitors in electronics components and as resins in overmolding, dip molding, or insert molding applications in electronics components manufacturing. There are likely more uses of PIP (3:1)-containing adhesives in electronics components.

We ask EPA to clarify:

- Does the four (4) year extension apply to PIP (3:1)-containing adhesives and sealants used in electronics applications?

[16] DIRECTIVE 2011/65/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (recast)

- Does the exception for PIP (3:1)-containing adhesives and sealants in new and replacement parts for automobiles or aerospace apply to adhesives and sealants used in electronics that are then used in automobile or aerospace applications?

We welcome EPA's clarification as to the PIP (3:1)-containing articles that contain PIP (3:1) only because of the adhesive applied during the manufacturing processes for components.

Request for clarification terms "article" and "product"

In establishing updated regulatory text, we request that the EPA clarify the definitions for and applicability of these terms in the context of risk management rulemaking for existing chemicals under TSCA – not just for PIP (3:1), but for all other existing chemicals, too – including: product and article. EPA often exempts "articles" from certain TSCA requirements, therefore, clarifying these terms within context of a risk management rule will minimize confusion, set expectations, and make compliance more feasible and consistent across industry sectors. For example, the existing rule refers to "PIP-containing products or articles," "products containing PIP," "articles and products," "products or articles," and exceptions for products containing PIP that apply to articles. Consistency is critical to determination of applicability for the regulated entity.

Support for recycled content exemptions

CTA, IPC and ITI support the exemption for "processing and distribution in commerce of articles and products made from recycled PIP (3:1)-containing plastic provided no new PIP (3:1) is added during the recycling process or to articles and products made from the recycled plastic." Our members strongly support the use of recycled content plastic, including plastic that may contain PIP (3:1) or other PBT chemicals, to support a circular economy. This exemption was supported by substantial evidence in the record and EPA's prior evaluation of comments received on the PBT rules. EPA should maintain this exemption.

Closing

CTA, IPC and ITI are not seeking to argue whether EPA should reduce exposure to PIP (3:1) to the greatest extent practicable; rather, we are reasonably requesting a 48-month compliance timeframe based on a "manufactured by" date that is responsive to the implemented chemical management and quality and safety assurance programs of our companies as well as an exemption for spare and replacement parts, applications in research and development, and for monitoring and control equipment. We emphasize that the current compliance timeframe in the Final Rule for PIP (3:1) is unreasonable for manufacturers and retailers and companies are gravely concerned given the strict liability imposed under the law. These requests are consistent with other restricted substance regimes and will facilitate the transition away from PIP (3:1) in a manner that recognizes business challenges while also reducing environmental impact due to premature scrapping of PIP (3:1) containing product caused by insufficient time for regulatory transition.

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Thank you for your attention to our concerns over the past several months and allowing CTA, IPC and ITI to submit these comments and requests. We thank the EPA for its continued collaboration and look forward to any follow-up conversations to these comments.

Sincerely,

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Enclosures

Consumer Technology Association
As North America's largest technology trade association, CTA® *is* the tech sector. Our members are the world's leading innovators – from startups to global brands – helping support more than 18 million American jobs. CTA's members have long been recognized for their commitment and leadership in innovation and sustainability, often taking measures to exceed regulatory requirements on environmental design, energy efficiency, and product and packaging stewardship. CTA owns and produces CES® – the most influential tech event on the planet. Find us at CTA.tech. Follow us @CTAtech.

IPC
IPC (www.IPC.org) is a global industry association based in Bannockburn, IL, dedicated to the competitive excellence and financial success of its 3,000+ member companies which represent all facets of the electronics industry, including design, printed board manufacturing, electronics assembly and test. As a

member-driven organization and leading source for industry standards, training, industry intelligence and public policy advocacy, IPC supports programs to meet the needs of an estimated $2 trillion global electronics industry. IPC maintains additional offices in Washington, D.C.; Atlanta, GA.; Miami, FL.; Brussels, Belgium; Bangalore and New Delhi, India; Bangkok, Thailand; and Qingdao, Shanghai, Shenzhen, Chengdu, Suzhou and Beijing, China.

Information Technology Industry Council (ITI)
The Information Technology Industry Council (ITI) is the premier global advocate for technology, representing the world's most innovative companies. Founded in 1916, ITI is an international trade association with a team of professionals on four continents. We promote public policies and industry standards that advance competition and innovation worldwide. Our diverse membership and expert staff provide policymakers the broadest perspective and thought leadership from technology, hardware, software, services, and related industries.

February 23, 2021

Dr. Michal Ilana Freedhoff
Acting Assistant Administrator
Office of Chemical Safety and Pollution Prevention
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460
Submitted via e-mail

Re: Industry Requests Regarding EPA's Final Rule for PIP (3:1) Pursuant to TSCA Section 6(h)

Dear Dr. Freedhoff:

We are writing you to follow up on the letter that the Consumer Technology Association™ (CTA) and the Information Technology Industry Council (ITI) sent to you, Mr. Dan Utech, and Ms. Victoria Arroyo on January 28, 2021 (copy enclosed).[1] That letter requested that the U.S. Environmental Protection Agency (EPA) provide relief from the upcoming March 8, 2021, compliance deadline for the Final Rule for Phenol, Isopropylated Phosphate (3:1) (PIP 3:1) published on January 6, 2021, pursuant to section 6(h) of the Toxic Substances Control Act (TSCA) ("Final Rule") issued by the prior Administration.

We appreciate the opportunity to meet with you and your staff next Monday, March 1. We look forward to a productive discussion and hope to receive a substantive response from EPA to address the concerns of our member companies during that meeting. In advance of that meeting we want to share with you the impacts to our member companies and disruptions to the economy that are likely to occur without immediate action by EPA.

The impact of prohibiting articles that contain PIP (3:1) as of March 8 – less than two weeks from today – will be widespread. As noted in our January 28 letter, PIP (3:1) is used in articles including electronic and electrical devices and components. We anticipate massive disruption to numerous member companies and the products and replacement parts they sell or make available to U.S. consumers including purchasers of consumer goods and industrial manufacturing equipment, with potential downstream ripple effects throughout the U.S. manufacturing base and economy.

In fact, the impact of the Final Rule is already being felt. Many CTA members have made the difficult decision to cease shipment of products and replacement parts that contain PIP (3:1) into the U.S. Others are taking steps to ensure that products and replacement parts that contain PIP (3:1) are not in commerce prior to March 8 compliance deadline. For some companies, the deadline comes too soon to

[1] CTA and ITI represent over 2,000 member companies, including original equipment manufacturers, innovators, and information and consumer technology leaders. Collectively, over 80 percent of the companies represented by our membership qualify as small and medium-sized businesses and start-ups. Our members represent the complex, global supply chain of electronics—what our members make is used in thousands of products found in homes and businesses across the United States.

effectively determine the presence of PIP (3:1) in their supply chain given the chemical remains unregulated in any other jurisdiction in the world.

As they struggle with the pandemic, American consumers rely on technology products as never before to work, educate children, access medical care and arrange home delivery of food and other vital goods. If the March 8 ban were to occur, consumers would find electronics that were already difficult to obtain due to increasing demand may no longer be available. Replacement parts for many devices may be non-existent. The timeline for which some of these products may remain unavailable could span two years or longer as companies work to secure alternatives to PIP (3:1) that meet both performance and safety standards.

Given the significant adverse impacts to our industry and to the wider economy, especially during the pandemic, we respectfully request that EPA take immediate action to address the concerns stemming from the pending March 8 deadline.

Thank you for your attention to this request and we look forward to speaking to you soon.

Sincerely,

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Enclosure

cc: Mr. Lawrence Starfield
Acting Assistant Administrator
Office of Enforcement and Compliance Assurance

Ms. Victoria Arroyo
Associate Administrator for Policy
Office of Policy

Mr. Dan Utech
Chief of Staff
Office of the Administrator

January 28, 2021

Dan Utech
Chief of Staff

Michal Freedhoff, Ph.D.
Principal Deputy Assistant Administrator
Office of Chemical Safety and Pollution Prevention

Victoria Arroyo
Associate Administrator
Office of Policy

U.S. Environmental Protection Agency
1200 Pennsylvania Ave. NW
Washington, DC 20004
Submitted via email

Re: Phenol, Isopropylated Phosphate (3:1) (PIP 3:1); Regulation of Persistent, Bioaccumulative, and Toxic Chemicals Under TSCA Section 6(h); Final Rule (Jan. 6, 2021)

Dear Mr. Utech, Dr. Freedhoff, and Ms. Arroyo:

The Consumer Technology Association™ (CTA) and the Information Technology Industry Council (ITI)[1] look forward to working with you as you lead the U.S. Environmental Protection Agency (EPA) to safeguard our health and the environment. We recognize and appreciate that you are likely still settling into your new roles, but time is of the essence for many of our companies. Specifically, this letter brings to your attention our immediate concerns regarding the compliance timeframes for the Final Rule for Phenol, Isopropylated Phosphate (3:1) (PIP 3:1) issued on January 6, 2021, pursuant to Section 6(h) of the Toxic Substances Control Act (TSCA). We respectfully request a targeted extension of the compliance dates based on the concerns outlined below and request a meeting at your earliest convenience to further discuss. Our companies need to make the decision no later than February 10 whether they can continue to import their electronic devices and sell them in the United States.

Pursuant to the January 20, 2021, memorandum from Assistant to the President and Chief of Staff Ronald Klain, we also respectfully request that EPA postpone the effective date of the Final Rule and open a 30-day comment period to allow interested parties, including CTA and ITI, to provide comments in support of a new compliance timeframe for our companies.

PIP (3:1) is used with electronic devices. CTA's and ITI's members, through their chemical management programs, have identified the use of PIP (3:1) in several components including PVC tubes, harnesses, cables, and sleeves; gaskets; and covers of parts. Therefore, we can confirm that PIP (3:1) is present in these articles, contrary to EPA's assessment in the Response to Public Comments: Regulation of Persistent,

[1] CTA and ITI represent over 2000 member companies including original equipment manufacturers, innovators, and information and consumer technology leaders. Collectively, over 80 percent of the companies represented by our membership qualify as small and medium-sized businesses and start-ups. Our members represent the complex, global supply chain of electronics – what our members make is used in thousands of products found in homes and businesses across the U.S.

Bioaccumulative, and Toxic Chemicals under Section 6(h) of the Toxic Substances Control Act where EPA stated that "there is little evidence to suggest that PIP (3:1) is present in commercial and industrial articles" as a justification for why additional compliance time was not needed for articles.[2] While CTA and ITI unfortunately did not provide input during the public comment period, our industry is now raising concerns regarding the impact of the Final Rule due to the presence of PIP (3:1) in electronics and electrical devices.

Challenges with the compliance timeframe. Our member companies fully intend to comply with the EPA regulation to prohibit PIP (3:1) but additional time is needed to ensure companies can come into compliance. Given the use of PIP (3:1) in electronic and electrical devices, the 60-day timeframe is unrealistic for the reasons we outline below. Because of the 60-day timeframe, our members will need to make the decision within the next two weeks regarding shipment of electronic and electrical devices into the US and whether certain electronic and electrical devices need to be pulled from the shelves as of March 8, 2021. In short, electronic and electrical devices may soon be unavailable to US consumers.

As noted by several commenters during the public comment period, the European Chemicals Agency (ECHA) does not classify PIP (3:1) as a persistent, bioaccumulative, and toxic (PBT) chemical. In fact, PIP (3:1) remains largely unregulated throughout the world. We raise this to highlight the fact that companies which are manufacturers (and importers) of articles have only recently begun the process of tracking PIP (3:1) within their supply chain given it lacked compliance restrictions in any jurisdiction.

Once the use of PIP (3:1) has been identified, companies undertake a process within their chemical management programs to identify alternatives; formulate and procure new components; conduct quality assessments; certify to safety standards; potentially rework the manufacturing process; and ultimately ship and import products without PIP (3:1) into the US market. This process cannot be completed in 60 days. Additionally, COVID restrictions in different countries have disturbed the electronics supply chain resulting in additional pressures on timelines as suppliers intermittently shut down.

Below is an outlined 24-month timeframe of the process our members undertake to phase a chemical out of the supply chain (note: individual steps and timeframes may vary by company):

- Procurement and Assessment of Substitute Parts with Suppliers: 6 months
- Internal Quality Assessments: 3 months
- Quality and Safety Certification: 6 months
- Supplier Coordination and Manufacturing Changes: 6 months
- Shipment, Import and Distribution in US: 3 months

Based on the above, CTA and ITI request that EPA establish a 24-month compliance timeframe from the date of the initial publication of the Final Rule for the manufacture and import of electronic and electrical articles containing PIP (3:1). There should be a later compliance date (ideally 12 months) for distribution in commerce and a sell-through provision as recommended by others during the public comment period and granted by EPA for other PBT chemicals. Accordingly, we propose the following regulatory text:

> § 751.407(a)(2) *Phase-in Prohibitions for Specific uses of PIP (3:1) and PIP (3:1)-containing products and articles*.

[2] Section 3.12. Page 93.

(iii) After January 1, 2023, all persons are prohibited from all manufacturing (including import) of PIP (3:1) for use in electronic and electrical articles, including electronic and electrical devices and components, and PIP (3:1)-containing electronic electrical articles, including electronic and electrical devices and components.

(iv) After January 1, 2024, all persons are prohibited from all processing and distributing in commerce of PIP (3:1) for use in electronic and electrical articles, including electronic and electrical articles and components, and PIP (3:1) containing electronic and electrical articles, including electronic and electrical devices and components.

Please note that the above 24-month compliance timeframe is significantly faster than timelines in other jurisdictions. For example, a chemical phase out in the European Union under the Restriction of Hazardous Substances in Electrical and Electronic Equipment 2 (RoHS 2)[3] is typically effective four years from the date of notice. The two-year timeline we're requesting involves industry prioritizing and working at a faster speed than is standard.

As you are aware, EPA granted a four-year compliance extension for adhesives and sealants under the PIP (3:1) Final Rule to "allow for a reasonable period of time to transition to alternatives."[4] CTA and ITI would encourage EPA to consider half that time for electronic and electrical articles to "allow for a reasonable period of time to transition to alternatives" and to avoid the banning electronic and electrical articles containing PIP (3:1) from the US.

Exemption for replacement parts for consumer technology. Per California law[5], consumer technology companies that have sold electronics valued at $100 or more are required to "make available to service and repair facilities sufficient service literature and functional parts to effect the repair of a product for at least seven years after the date a product model or type was manufactured." Given the law requires CTA's member to provide replacement parts, an exemption should be granted for replacement parts for electronics for a seven-year time period once the compliance date is effective. To require these companies to reformulate or redesign replacements parts for electronics currently on the market or electronics no longer being manufactured is not practicable because these parts have already been manufactured and and/or there are no currently feasible alternatives.

The exemption for replacement parts for electronics is justified because it is 1) required by law and 2) important to the performance and safety of electronics. The latter is the same justification used by EPA for its exemption for replacement parts of automobiles.[6]

Request for EPA action. CTA's and ITI's member are not seeking to argue the merits of prohibiting the distribution of articles, including electronic and electrical devices and components, containing PIP (3:1); we are merely requesting a more realistic timeframe that is responsive to the implemented chemical

[3] Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment

[4] Response to Public Comments: Regulation of Persistent, Bioaccumulative, and Toxic Chemicals under Section 6(h) of the Toxic Substances Control Act. Section 3.3.5. Page 81.

[5] California Civil Code § 1793.03

[6] Response to Public Comments: Regulation of Persistent, Bioaccumulative, and Toxic Chemicals under Section 6(h) of the Toxic Substances Control Act. Section 3.3.3. Page 79. "EPA determined that prohibiting the processing and distribution of PIP (3:1) for use in replacement parts is not practicable because PIP (3:1) is used to meet safety standards in new and replacement parts for automobiles and there is currently no feasible alternative."

management and quality and safety assurance programs of our companies as well as an exemption for replacement parts to allow companies to comply with California's law.

CTA and ITI request a meeting with you and any appropriate EPA staff to discuss the above concerns next week, February 1-5. As noted above, time is of the essence as our companies will need to make decisions within the next two weeks[7] about importing electronic devices into the US if the March 8 deadline cannot be extended.

Thank you for allowing CTA and ITI to submit this request for an extension and we thank the EPA for its continued collaboration. We look forward to additional discussion with EPA on this timely matter.

Sincerely,

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[7] Shipping of consumer technology articles from overseas takes around four weeks. As such, a one-month lead time is needed before the March 8 compliance date is needed to determine whether or not to ship product to the US.