



EPA Public Webinar on DecaBDE and PIP (3:1)

December 12, 2024 at 2PM ET

FINAL RULE: Decabromodiphenyl Ether and Phenol, Isopropylated Phosphate (3:1); Revision to the Regulation of Persistent, Bioaccumulative, and Toxic (PBT) Chemicals under the Toxic Substances Control Act (TSCA)

Agenda

- Overview of the Regulations of Persistent, Bioaccumulative, and Toxic Chemicals
- DecaBDE Regulations
 - Overview
 - 2021 Final Rule
 - 2024 Final Rule
- PIP (3:1) Regulations
 - Overview
 - 2021 Final Rules
 - 2024 Final Rule
- Recently Passed and Upcoming Deadlines
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Overview of PBTs under TSCA Section 6(h)

- In 2021, EPA finalized five rules for five PBT chemicals under TSCA 6(h).
- EPA was required to “*address the risks of injury to health or the environmentand shall reduce exposures to the extent practicable*”.
- No risk evaluation was required or conducted for these rules.
- In November 2024, EPA finalized amendments to the rules for:
 - Decabromodiphenyl Ether (or decaBDE) (CASRN 1163-19-5), and
 - Phenol, Isopropylated Phosphate (3:1) (or PIP (3:1)) (CASRN 68937-41-7).

40 CFR Part 751 Subpart E: <https://www.ecfr.gov/current/title-40/chapter-I/subchapter-R/part-751/subpart-E>

Final 2024 Rule: <https://www.federalregister.gov/documents/2024/11/19/2024-25758/decabromodiphenyl-ether-and-phenol-isopropylated-phosphate-31-revision-to-the-regulation-of>

DecaBDE Regulations

Overview of DecaBDE

- Since release of the 2021 Final Rule, decaBDE is currently used as:
 - An additive flame retardant in wire and cables for nuclear power generation facilities; and
 - Multiple applications for aerospace and automotive vehicles, including replacement parts.
- Toxic to aquatic invertebrates, fish, and terrestrial invertebrates.
- Potential developmental, neurological, and immunological effects, general developmental toxicity, and liver effects in mammals, with some evidence of genotoxicity and carcinogenicity.
- Production was voluntarily phased out by all major domestic manufacturers in 2013.

DecaBDE 2021 Final Rule

- The 2021 final rule prohibits the manufacturing, processing, and distribution in commerce of decaBDE or decaBDE-containing products or articles, with the following exclusions and phase-ins:
 - Exclusions:
 - Distribution in commerce and recycling of decaBDE-containing plastic from products or articles, and processing and distribution in commerce of decaBDE-containing products or articles made from such recycled plastic, where no new decaBDE is added during the recycling or production processes is not subject to the prohibition in paragraph (a) of section 751.405.
 - Phase-in Prohibitions:
 - After the end of plastic pallets' service life, distribution in commerce of plastic shipping pallets that contain decaBDE and were manufactured before March 8, 2021;
 - Until 2036, or the end of the vehicles' service lives, manufacturing, processing, and distribution in commerce of decaBDE for use in replacement parts for motor vehicles and the decaBDE-containing replacement parts; and
 - After the end of the vehicles' service lives, manufacturing, processing, and distribution in commerce of decaBDE in replacement parts for aerospace vehicles, and the decaBDE-containing replacement parts.

DecaBDE 2021 Final Rule Cont.

- The 2021 final rule provided alternative compliance dates for the following activities:
 - After July 6, 2022, manufacturing, processing, and distribution in commerce of decaBDE for use in curtains in the hospitality industry, and the decaBDE-containing curtains, is prohibited;
 - After January 6, 2023, processing and distribution in commerce of decaBDE for use in wire and cable insulation, and decaBDE-containing wire and cable insulation in nuclear power generation facilities; and
 - After January 8, 2024, manufacturing, processing, and distribution in commerce for decaBDE for use in parts installed in new aerospace vehicles, and the deca-BDE containing parts for such vehicles, is prohibited.

2024 Final Revisions to 40 CFR 751.405 — DecaBDE

- Regulatory Threshold:
 - Establishes a regulatory threshold level of 0.1 percent by weight.
 - Excludes from the rule's prohibitions/restrictions products or articles containing decaBDE below this threshold, if the decaBDE is not intentionally added.
 - Applicable to individual parts of a complex good.
- Wire and cable for use in nuclear power generation facilities:
 - Extends the compliance deadline for processing and distribution in commerce of decaBDE-containing wire and cable insulation for nuclear power generation facilities (including test and search reactors) to the end of the wire and cables' service life.
 - Requires export notification for decaBDE-containing wire and cable for nuclear power generation facilities.

2024 Final Revisions to 40 CFR 751.405 — DecaBDE

- Worker protection standards:
 - Applies to any workplaces engaged in manufacturing and processing of decaBDE and decaBDE-containing products and articles, unless otherwise excluded.
 - Owners/operators must demarcate and limit access to regulated areas.
 - Owners/operators must ensure that all potentially exposed persons within the regulated area are using the provided respirators whenever exposures to airborne concentrations of decaBDE can reasonably be expected.
 - Respirators must be at least as protective as a NIOSH-approved N95 respirator (APF 10).
 - Owners/operators must provide chemically resistant gloves where dermal contact with decaBDE is reasonably expected.
 - Requires worker protection training and recordkeeping for five years.

2024 Final Revisions to 40 CFR 751.405 — DecaBDE

- Exclusions from worker protection standards for the following:
 - Import of decaBDE and decaBDE-containing products and articles,
 - Recycling of decaBDE-containing plastic from products or articles and decaBDE-containing products or articles made from such recycled plastic, where no new decaBDE is added during the recycling or production processes,
 - Processing of decaBDE-containing wire and cable insulation for use in nuclear power generation facilities, and
 - Processing of new and replacement parts to which decaBDE has been added for motor and aerospace vehicles, and the motor and aerospace vehicles that contain new and replacement parts to which decaBDE has been added.

2024 Final Revisions to 40 CFR 751.405 — DecaBDE

- Signage in regulated areas:
 - EPA did not codify the proposed labeling requirement for decaBDE-containing plastic pallets.
 - Requires all persons who process, including recycle, plastic shipping pallets that contain decaBDE must place signs at every entry point into the regulated area.
- Releases to water:
 - Prohibits the release to water during the manufacturing, processing, and distribution in commerce of decaBDE and decaBDE-containing products.
 - Requires persons to follow any applicable regulations for preventing the release of decaBDE to water.
- Recordkeeping
 - Extends recordkeeping requirements from three to five years.
 - Removes the 30-day time frame to make records available.

PIP (3:1) Regulations

Overview of PIP (3:1)

- Currently used as a:
 - Flame retardant and an anti-compression additive in aviation and industrial hydraulic fluid;
 - Anti-wear additive in aviation and industrial lubricants and greases; and
 - Plasticizer and flame retardant in adhesives and sealants, paints and coatings, various vehicle products, consumer and commercial electronic applications, and other articles.
- Potential reproductive and developmental effects, neurological effects, and effects on systemic organs, specifically the adrenal glands, liver, ovaries, and heart in mammals.
- Toxic to aquatic plants, aquatic invertebrates, sediment invertebrates, and fish.
- PIP (3:1) production: 2020 CDR (for years 2016–2019) reported domestic manufacture or import of 1 to 10 million pounds annually at nine facilities.

2021 PIP (3:1) Final Rule

- The 2021 final rule prohibits the processing and distribution in commerce of PIP (3:1) and PIP (3:1)-containing products or articles, with several phase-ins and exclusions.
- Prohibits the release to water during manufacturing, processing and distribution in commerce, and requires companies to follow all applicable best management practices to prevent releases during commercial use.
- Requires downstream notification via a label or SDS sheet for manufacturers, processors, and distributors.

2021 PIP (3:1) Final Rule Cont.

- Phase-in prohibitions on processing and distribution for specific uses:
 - Use in most adhesives and sealants after January 2025.
 - Use in photographic printing after January 2022.
 - Unless covered by a phase-in date or exclusion, processing and distribution of PIP (3:1) for use in articles and processing of articles phased out on October 31, 2024 (as amended in 2022).
- Exclusions from the general prohibition the processing and distribution in commerce for the following specific uses, which were not modified by the 2024 rule:
 - In certain hydraulic fluids.
 - As an intermediate in a closed system to produce cyanoacrylate adhesives.
 - In specialized engine filters for locomotive and marine applications.
 - Of plastics for recycling of products or articles containing PIP (3:1), provided no new PIP (3:1) is added during the recycling process.
 - Of finished articles and products made from such recycled plastic, provided no new PIP (3:1) is added during the production process.

2024 Final Revisions to 40 CFR 751.407 — PIP (3:1)

- Regulatory Threshold:
 - Establish a regulatory threshold level of 0.1 percent by weight.
 - Excludes from the rule's prohibitions/restrictions products or articles containing PIP (3:1) below this threshold, if the PIP (3:1) is not intentionally added.
 - Applicable to individual parts of a finished good.
- Lubricants and greases:
 - Exclusion for aerospace and turbine uses.
 - 15-year time limit for all other uses, or for the timeline of a lengthier phase-in if there is another provision authorizing the use of PIP (3:1) for a specific industry, e.g., motor vehicles.
- Marine antifouling:
 - 5-year time limit for use in marine antifouling coatings that are registered under the Federal Insecticide, Fungicide, and Rodenticide Act and that meet U.S. Department of Defense specification requirement.
- Articles subject to October 31, 2024 compliance deadline:
 - Additional 2 years for distribution of articles to clear channels of trade.

2024 Final Revisions to 40 CFR 751.407 — PIP (3:1)

- The exclusion for motor vehicles and aerospace vehicles was replaced with prohibition phase-ins.
- Motor vehicles
 - New motor vehicles have a 15-year time limit for:
 - Processing and distribution in commerce of PIP (3:1) for use in parts.
 - Manufacturing, processing, and distribution of PIP (3:1)- containing products for use in parts.
 - Manufacturing and processing of PIP (3:1) containing parts for new motor vehicles.
 - An additional 15 years for replacement parts for such activities relevant to replacement parts for motor vehicles.
 - Clarified that motor vehicles includes heavy motorized machinery
- Aerospace vehicles:
 - 30-year time limit for new aerospace vehicles,
 - Processing and distribution in commerce of PIP (3:1) for use in parts.
 - Manufacturing, processing, and distribution of PIP (3:1)-containing products for use in parts.
 - Manufacturing and processing of PIP (3:1)-containing parts for new aerospace vehicles.
 - Until the end of the service life of the aerospace vehicles for such activities relevant to replacement parts for such vehicles

2024 Final Revisions to 40 CFR 751.407 — PIP (3:1)

- New equipment:
 - Covered equipment has 10-year time limit for:
 - Processing and distribution in commerce of PIP (3:1) for use in parts.
 - Manufacturing, processing, and distribution in commerce of PIP (3:1)-containing products for use in parts.
 - Manufacturing and processing of PIP (3:1)-containing parts for new equipment.
 - Covered equipment includes:
 - Manufacturing equipment, including equipment in the semiconductor industry;
 - Heating, ventilation, air-conditioning, refrigeration, and water-heating equipment;
 - Power generating equipment; and
 - Laboratory equipment, commercial electronic equipment.

2024 Final Revisions to 40 CFR 751.407 — PIP (3:1)

- Replacement parts for new equipment:
 - Processing and distribution in commerce of PIP (3:1) for use in parts.
 - Manufacturing, processing, and distribution in commerce of PIP (3:1)-containing products for use in parts.
 - Manufacturing and processing of PIP (3:1)-containing parts for new equipment.
- Phase-in timeframes:
 - Until the end of the service life: manufacturing and laboratory equipment.
 - Additional 25 years:
 - Heating, ventilation, air-conditioning, refrigeration, and water-heating equipment;
 - Power generating equipment; and
 - Commercial electronic equipment.
 - After 7 years: consumer electronic equipment.

2024 Final Revisions to 40 CFR 751.407 — PIP (3:1)

- New Exclusions
 - Wire harnesses and electronic circuit boards:
 - New exclusions to allow processing and distribution in commerce of PIP (3:1) and PIP (3:1)-containing products used in wire harnesses and electronic circuit boards.
 - Wire harnesses includes terminal and fuse covers, cable sleeves, casings, connectors, and tapes.
 - This exclusion does not cover products and articles that do not come into contact with electrical circuits.
 - Repair and Maintenance:
 - Processing and distribution in commerce of articles that contain PIP (3:1) for repair and maintenance.
 - Applies when no PIP (3:1) is added.

2024 Final Revisions to 40 CFR 751.407 — PIP (3:1)

- Amended exclusion for Recycling and Reuse:
 - Processing and distribution in commerce of finished products and articles made of plastic recycled or reused from products or articles made of plastic containing PIP (3:1), where no new PIP (3:1) was added.
- Amended exclusion: Distribution of vehicles and equipment
 - Distribution in commerce of motor vehicles, aerospace vehicles, equipment and the parts for such vehicles and equipment.
 - After compliance deadline on manufacturing and processing, parts and equipment can be further distributed in commerce.
 - Applies to parts and equipment covered in 40 CFR 751.407(a)(2)(v)-(viii) and (xi)-(xii); motor and aerospace vehicles, manufacturing equipment, including in the semiconductor industry, heating, ventilation, air-conditioning, refrigeration, and water-heating equipment, power generating equipment, laboratory equipment, commercial electronic equipment

2024 Final Revisions to 40 CFR 751.407 — PIP (3:1)

- Worker protection standards:
 - Apply to any workplaces engaged in manufacturing and processing of PIP (3:1) and PIP (3:1)-containing products and articles, unless otherwise excluded.
 - Owners/operators must demarcate and limit access to regulated areas.
 - Owners/operators must ensure that all potentially exposed persons within the regulated area are using the provided respirators whenever exposures to airborne concentrations of PIP (3:1) can reasonably be expected.
 - Owners/operators must provide chemically resistant gloves where dermal contact with PIP (3:1) is reasonably expected.
 - Requires worker protection training.

2024 Final Revisions to 40 CFR 751.407 — PIP (3:1)

- Exclusions from worker protection requirements:
 - Import of PIP (3:1) and PIP (3:1)-containing products and articles.
 - Processing of:
 - PIP (3:1)-containing adhesives and sealants, specialized engine filters for locomotive and marine applications, and during recycling activities.
 - PIP (3:1) containing new and replacement parts for motor and aerospace vehicles and various equipment subject to phase-outs.
 - Processing of PIP (3:1) and PIP (3:1)-containing products for use as an intermediate to produce cyanoacrylate adhesives when contained in a closed system
- Recordkeeping
 - Extended recordkeeping requirements from three to five years.
 - Removed the 30-day time frame to make records available.

2024 Final Revisions to 40 CFR 751.407 — PIP (3:1)

- Hierarchy of phase-outs:
 - If a product or article is subject to more than one phase-outs or exclusion, the exclusion or longer phase-out applies.
 - Example: adhesives/sealants
 - Use of PIP (3:1) in adhesives and sealants phased out in January, 2025 (excluding use in cyanoacrylate adhesives when manufactured in a closed system).
 - Adhesives and sealants products containing PIP (3:1) may continue to be used in parts for new equipment and replacement parts for such equipment subject to a longer phase-out, such as motor vehicles or manufacturing equipment.

2024 Final Revisions to 40 CFR 751.407 — PIP (3:1)

- Example Scenarios
 - When does the regulatory threshold apply?
 - Where an activity is covered by an exclusion or is within a phase-in prohibition period, the presence of PIP (3:1) is allowed without respect to the amount of PIP (3:1) in the product or article.
 - Where an activity is not covered by an exclusion or the relevant phase-in prohibition period has ended, any applicable prohibition would not apply to products or articles that contain amounts of PIP (3:1) below the threshold level if not intentionally added.
 - My product is assembled from several components, some of which contain PIP (3:1) above the regulatory threshold level (i.e., 0.1% by weight). Does my final product meet the threshold if the total amount of PIP (3:1) is below the threshold, considering the total weight of the final product?
 - The final product does not meet the regulatory threshold level unless each component also meets the threshold requirement.

2024 Final Revisions to 40 CFR 751.407 — PIP (3:1)

- How does the 2024 rule address repairing and reselling commercial electronic equipment manufactured/imported with PIP (3:1)-containing replacement parts?
 - Under 40 CFR 751.407 (a)(2)(xi), you can repair and resell commercial electronic equipment with PIP (3:1)-containing replacement parts prior to the compliance deadline (November 19, 2049). After that date, commercial electronic equipment containing PIP (3:1) can be repaired and resold under 40 CFR 751.407 (b)(1)(viii) , as long as no new PIP (3:1) is added.
- How does the 2024 rule address repairing and reselling consumer electronic equipment manufactured/imported with PIP (3:1)-containing replacement parts?
 - Under 40 CFR 751.407(a)(2)(iii), you may distribute the printer in commerce (i.e., sell it) until October 21, 2026. Under 40 CFR 751.407(a)(2)(xi) and (b)(2)(i), you may repair the printer with PIP (3:1) containing parts and resell for 7 years, until November 9, 2031. After that date, you may repair and resell the printer under 40 CFR 751.407 (b)(1)(viii), as long as no new PIP (3:1) is added.

Effective date of the 2024 Final Rule for DecaBDE and PIP (3:1)

- The effective date of the 2024 Final Rule is January 21, 2025.
- On September 27, 2024, as a bridge to the final rule effective date, EPA extended its May 2, 2023, temporary Enforcement Statement of decaBDE until either (1) 11:59 PM ET, January 30, 2025, or (2) the effective date of a final action addressing the compliance date for the prohibition on processing and distributing in commerce of decaBDE-containing wire and cable insulation, whichever occurs earlier.
- For PIP (3:1), until January 21, 2025 when the new rule is effective, EPA intends to focus its enforcement on ensuring compliance with the requirements of the 2024 final rule.

Recently Passed and Upcoming Deadlines

Date	Action
November 24, 2023	Export notification to EPA for decaBDE-containing wire and cable was required
October 31, 2024	Phase-in prohibition for processing and distribution of PIP (3:1) for use in articles and processing of PIP (3:1)-containing articles not otherwise excluded or phase-in
January 6, 2025	Phase-in prohibition for processing and distribution of PIP (3:1) for use in adhesive and sealants (excluding the use of PIP (3:1) in cyanoacrylate adhesives)
January 21, 2025	Effective date of the final rule. Certain provisions become effective on January 21st (e.g., decaBDE release to water provision, worker protections for both chemicals, recordkeeping, signage for decaBDE recycling of pallets)
February 19, 2025 or May 19, 2026	Downstream notification for PIP (3:1) and PIP (3:1) products via language in Safety Data Sheets by February 19 th or by including on the label by May 19 th , 2026
October 31, 2026	Phase-in prohibition for distribution of PIP (3:1)-containing articles not otherwise excluded or phased out
November 19, 2029	Phase-in prohibition for marine antifouling coating products that are registered under the Federal Insecticide, Fungicide, and Rodenticide Act and that meet U.S. Department of Defense specification requirements
Note: there are other phase-out compliance deadlines later than 2031 and some tied to the end of service life for certain vehicles, equipment, parts, etc., which may occur before these dates. Check the published rule for more details on compliance deadlines.	

Additional Resources

- 40 CFR Part 751 Subpart E: <https://www.ecfr.gov/current/title-40/chapter-I/subchapter-R/part-751/subpart-E>
- Final 2024 Rule: <https://www.federalregister.gov/documents/2024/11/19/2024-25758/decabromodiphenyl-ether-and-phenol-isopropylated-phosphate-31-revision-to-the-regulation-of>
- PBT Webpage: <https://www.epa.gov/assessing-and-managing-chemicals-under-tsca/persistent-bioaccumulative-and-toxic-pbt-chemicals>
- OSHA Respiratory Standard 29 CFR 1910.134: <https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.134>
- For general questions, email EPA at TSCA-PBT-rules@epa.gov
- TSCA hotline: 1-800-471-7127 and tsca-hotline@epa.gov

PBT Webinar

Questions and Answers