



# PIP 3:1 and DecaBDE

Semiconductor Industry Perspectives on Docket No.  
EPA-HQ-OPPT-2021-0598

September 11, 2023

# AGENDA

- 1 About SEMI and SIA
- 2 Overview
- 3 Compliance Deadline
- 4 Threshold Limits
- 5 Due Diligence
- 6 Replacement Parts

# About SEMI and SIA

**SEMI** works to advance the business of the electronics manufacturing supply chain. SEMI has over 3,000 members worldwide, including more than 530 American-headquartered companies, and represents the full range of U.S. semiconductor companies, including designers, equipment makers, materials producers, and subcomponent suppliers.

The **Semiconductor Industry Association (SIA)** advances policies that help the industry grow and unites semiconductor companies around common challenges. SIA seeks to strengthen U.S. leadership in semiconductor manufacturing, design, and research by working with Congress, the Administration, and key industry stakeholders to encourage policies and regulations that fuel innovation, propel business, and drive international competition.

# Overview

- PIP 3:1 rules are not workable without key changes
- Semiconductors and semiconductor production equipment have far-reaching impact on U.S. manufacturing economy
- Other critical industries rely directly on us (e.g., automotive, consumer electronics, national defense, healthcare, etc.).
- Disruptions to U.S. semiconductor industry would impact every U.S. economic sector
- Key Administration priority to support domestic semiconductor manufacturing – decrease reliance on foreign suppliers
- We have communicated with EPA four times about these rules, including last month

# Key Requests

- PIP 3:1 deadline must be moved or rule otherwise reworked
  - Option 1: exclude semiconductor manufacturing and related equipment (SMRE) from scope
  - Option 2: push back PIP 3:1 deadline for multiple years for semiconductor industry
  - Option 3: implement due diligence standard and de minimis thresholds
- Implement replacement parts exemption for PIP 3:1 and DecaBDE

# Key Differences from Consumer Products

- Fewer units (leads to lower exposure)
- Professional users (leads to lower exposure)
- More demanding performance requirements
- More complex products and supply chains
- Longer product life
- Parts may be stockpiled years prior to use
- Disruption would lead to bigger economic impact

# Compliance Deadline for PIP 3:1

Compliance is feasible, but not by EPA's October 31, 2024 timeline

- By late 2021 we had identified ~350 parts containing PIP 3:1.
- Have now identified thousands, with investigation still underway
- Investigation and replacement takes time
  - Extraordinarily complex supply chains – single article can contain tens of thousands of parts
  - Some supply chains 10+ layers deep
  - PIP 3:1 not regulated in any other jurisdiction
  - Years-long process to design, test, qualify, and fabricate new parts
- In late 2021 we flagged this deadline to EPA as likely not workable – now confirmed
- Without amendments to rule, may result in significant disruptions to domestic production of semiconductors, which would have exponentially larger effects on U.S. economy

# Threshold Limit

Adopt a threshold limit for PIP (3:1) and DecaBDE in articles

- Semiconductor supply chain communications and material tracking tools would benefit from a clear de minimis regulatory threshold
- We recommend 0.001% for PIP (3:1) and 0.1% for DecaBDE-containing articles
  - A threshold of 0.001% for PIP (3:1) is a reasonable approximation of ‘zero PIP (3:1)’ content
  - 0.1% for DecaBDE aligns with EU RoHS DecaBDE restriction
    - A 0.1% DecaBDE threshold for electronic equipment aligned with EU ROHS would significantly ease industry’s compliance burden
    - Without compromising EPA’s goals of environmental protection
- A “zero content” criterion cannot be demonstrated by testing; for any test method, there is a minimum detect level



# Due Diligence

EPA should frame due diligence approach to allow for the complexity of the global supply chain and the time required to produce components compliant with the PIP (3:1) and DecaBDE rules

- EPA should implement a due diligence framework for PIP 3:1 and DecaBDE:
  - Apply TSCA's "known to or reasonably ascertainable by" standard – already used in Chemical Data Reporting rule and proposed PFAS reporting rule
  - Affected companies communicate with direct suppliers, in writing, that parts they supply must comply with restrictions
  - Direct suppliers confirm compliance in writing
  - Affected companies should weigh these declarations against their independent assessments of likelihood that part could contain restricted substances
  - If necessary and appropriate, affected companies consider conducting testing on representative part samples
  - If an affected company discovers that a non-compliant part has been inadvertently distributed, company should create phase-out plan and cease distribution

# Replacement Parts

EPA should incorporate exclusions for replacement parts into PIP (3:1) and DecaBDE rules

- Semiconductor production equipment have a decades-long service life.
- Replacement part availability is critical to keep equipment running
- Many replacement parts designed and fabricated prior to PBT rules, stockpiles should not be made obsolete
- PBT-free alternative parts might not be available or readily compatible with existing equipment
- Documented service life for semiconductor articles is up to 25 years, meaning premature disposal risks negative environmental outcomes
- EPA has already provided exclusions for replacement parts for other industries
- Blanket exclusions for replacement parts also common in other jurisdictions (“repair as produced”)

Additional info goes here



# THANK YOU

Optional Subtext