

## ASSEMBLY THIRD READING

AB 1604 (Stefani)

As Amended May 18, 2026

Majority vote

**SUMMARY**

Prohibits, on and after January 1, 2028, a person from manufacturing, distributing, or selling a paper proof of purchase (receipt) that contains intentionally added bisphenol A (BPA); and, prohibits, on and after January 1, 2029, a person from manufacturing, distributing, or selling a paper receipt that contains intentionally added bisphenols. Authorizes the Department of Toxic Substances Control (DTSC) to enforce the prohibitions of this bill.

**Major Provisions**

- 1) Makes legislative findings and declarations about paper receipts and bisphenols.
- 2) Prohibits, on and after January 1, 2028, a person from manufacturing, distributing, selling, or offering for sale a paper receipt that contains intentionally added BPA.
- 3) Prohibits, on and after January 1, 2029, a person from manufacturing, distributing, selling, or offering for sale a paper receipt that contains intentionally added bisphenols.
- 4) Authorizes DTSC to adopt regulations to implement, interpret, or make specific the provisions of this bill.
- 5) Authorizes DTSC, the Attorney General, a district attorney, a county counsel, or a city attorney to enforce the provisions of this bill.
- 6) Provides that a violation of the provisions of this bill shall be punishable by a civil penalty not to exceed \$5,000 for a first violation and \$10,000 for each subsequent violation.
- 7) Provides that a prevailing plaintiff who establishes a violation of the provisions of this bill shall be entitled to an award of reasonable attorney's fees and costs.
- 8) Provides that the duties and obligations imposed by this bill are cumulative with any other duties or obligations imposed under other law, shall not be construed to relieve any party from any duties or obligations imposed under other law, and do not limit any rights or remedies under existing law.

**COMMENTS**

*Bisphenols:* Bisphenols are a group of synthetic, high-volume chemicals that are used in the manufacturing of polycarbonate plastics and epoxy resins. The most widely used and well-studied chemical in the group is BPA, but the use of other bisphenols, such as BPS and BPF, is increasing as manufacturers use these chemicals to replace BPA, especially following restrictions on the use of BPA.

The Human Biomonitoring for Europe program (HBM4EU), a joint European human biomonitoring initiative, explains in its "Bisphenols: What You Need to Know" factsheet that BPA is used as a building block in the production of polycarbonate plastics. The resulting

plastic is clear and tough and used to manufacture a wide range of consumer goods, including sports equipment, impact-resistant safety equipment, automobile parts, and food containers, such as reusable beverage bottles and reusable plastic tableware. Another primary use of BPA is in the production of epoxy resins used to line food and beverage cans to avoid corrosion of the metal and to avoid migration of metals into the can's contents. Epoxy resins are also used to line water pipes and in the manufacture of thermal papers used for shop sales receipts, ATM receipts, public transport tickets, parking tickets, and airline boarding passes. Finally, BPA is used in dental sealants. In terms of other bisphenols, both BPS and BPF are also used in the manufacture of plastics. BPS is increasingly used in the production of thermal papers.

*Concerns with bisphenols:* The 2019 article, "The adverse health effects of bisphenol A and related toxicity mechanisms," published in *Environmental Research*, summarizes concerns about BPA as follows: "Due to its mass productions and widespread applications, the presence of BPA is ubiquitous in the environment. BPA can enter the body via different ways such as [the] digestive tract, respiratory tract and dermal tract. As an endocrine disruptor, BPA has estrogen-like and anti-androgen effects causing damages to different tissues and organs, including [the] reproductive system, immune system and neuroendocrine system, etc. Recently, it has been shown that BPA could induce carcinogenesis and mutagenesis in animal models."

Further describing the concerns with BPA, HBM4EU says, "There is a large amount of literature on the toxicity of bisphenol A including at low doses... Studies have indicated that it could be associated with increased risk for:

- 1) Fetal development: miscarriages, decreased birth weight at term,
- 2) Reproductive and sexual dysfunctions,
- 3) Breast and prostate cancer or at least significant breast tissue remodeling. Studies have indicated that those effects were associated with gestational and neonatal exposure...
- 4) Altered immune system activity,
- 5) Obesity and metabolic dysfunctions and diabetes in adults,
- 6) Cardiovascular disease in adults,
- 7) Cognitive and behavioural development in young children."

As concerns mounted over the health and environmental impacts of exposure to BPA, manufacturers replaced BPA with other, less-studied bisphenols. Unfortunately, studies indicate that these bisphenols display hazard traits similar to, and sometimes worse than, BPA. These studies include "Bisphenol S in Food Causes Hormonal and Obesogenic Effects Comparable to or Worse than Bisphenol A: A Literature Review," published in 2020 in *Nature*, which states,

"In recent years, bisphenol analogues such as bisphenol S (BPS) have come to replace bisphenol A in food packaging and food containers, since bisphenol A (BPA) has been shown to leach into food and water, causing numerous negative health effects. Unfortunately, little or no research was done to determine the safety of these BPA-free products before they were marketed to the public as a healthier alternative. The latest studies have shown that some of these bisphenol analogues may be even more harmful than the

original BPA in some situations... It was found that BPS works via different pathways than does BPA while causing equivalent obesogenic [i.e., obesity-promoting] effects, such as activating preadipocytes, and that BPS was correlated with metabolic disorders, such as gestational diabetes, that BPA was not correlated with. BPS was also shown to be more toxic to the reproductive system than BPA and was shown to hormonally promote certain breast cancers at the same rate as BPA. Therefore, a strong argument may be made to regulate BPS in exactly the same manner as BPA."

Another study, "Bisphenol Analogues Other Than BPA: Environmental Occurrence, Human Exposure, and Toxicity: A Review," published in *Environmental Science and Technology* in 2016, states, "Elevated concentrations of BPAF, BPF, and BPS (i.e., similar to or greater than that of BPA) have been reported in the abiotic environment and human urine from some regions. Many [bisphenol] analogues exhibit endocrine disrupting effects, cytotoxicity, genotoxicity, reproductive toxicity, dioxin-like effects, and neurotoxicity in laboratory studies. BPAF, BPB, BPF, and BPS have been shown to exhibit estrogenic and/or antiandrogenic activities similar to or even greater than that of BPA."

Under Proposition 65, the Office of Environmental Health Hazard Assessment (OEHHA) listed BPA for effects on the female reproductive system in 2015 and for developmental effects in 2020. According to OEHHA, "BPA is on the Proposition 65 list because it may harm the developing baby, and it may harm the female reproductive system, including the ovaries and eggs." On December 29, 2023, OEHHA placed BPS on the Proposition 65 list for reproductive toxicity based on the female reproductive endpoint, and on January 3, 2025, it added the male reproductive toxicity endpoint. On October 27, 2017, OEHHA listed tetrabromobisphenol A as causing cancer.

*Bisphenols in receipts:* According to the 2023 article, "Bisphenols and alternative developers in thermal paper receipts from the U.S. market assessed by Fourier transform infrared spectroscopy," published in *Environmental Pollution*, "Cash register receipts made of thermal paper expose workers and shoppers to endocrine-disrupting chemicals and contaminate paper recycling streams." The article explains that cash register receipts are an underrecognized source of exposure to hormonally active chemicals, especially for workers who frequently handle receipts. It says that most receipts are made of thermal paper, which is coated with layers of chemicals that allow for rapid image formation under a thermal print head. Thermal paper receipts became common in the late 20th century, initially with BPA commonly used as the color developer. More recently, in response to concerns about BPA's health hazards, manufacturers replaced BPA in thermal receipts with alternative developers, typically BPS. The article states that, "Bisphenols and other developer chemicals may continue to expose people even after disposal; they have been found in recycled paper products."

OEHHA, on its "Bisphenol A (BPA)" factsheet, states that, "Sources of exposure to BPA include... Some thermal paper that has a glossy surface and is often used for receipts from cash registers, gas pumps, and automated teller machines (ATMs)."

*Alternatives to bisphenols in receipts:* The authors of the 2023 study published in *Environmental Pollution* state, "The results of this study suggest the [United States] retail market has shifted substantially to BPS-based receipts as replacements for BPA-based receipts. At the same time, a shift toward non-bisphenol receipts has begun. Bisphenol-based receipts (those with BPS or BPA as developer) decreased from about 93% of collected receipts in 2017 to 86% in 2022,

while non-bisphenols increased from 5% to 14% of receipts." However, the study cautions, "While BPS and BPA present greater known hazards, the nonbisphenol developers detected in this study encompass various unknowns and potential hazards. Using them to replace bisphenol receipts should be considered an interim solution, and each should be subjected to a comprehensive chemical hazard evaluation. Certain other thermal papers such as Blue4est™, not detected in this study, might offer preferable alternatives due to the use of a polymer coating rather than migratable developer chemicals. A better strategy for businesses to protect workers, customers, and natural resources, however, is to eliminate or minimize printing thermal paper receipts. This can be accomplished by offering a choice to the customer to skip the receipt or to receive a digital receipt. Non-thermal paper receipts are another option."

*This bill:* This bill prohibits, on and after January 1, 2028, a person from manufacturing, distributing, selling, or offering for sale a receipt that contains intentionally added BPA; and, prohibits, on and after January 1, 2029, a person from manufacturing, distributing, selling, or offering for sale a paper receipt that contains intentionally added bisphenols. This bill also authorizes DTSC to adopt regulations to implement the prohibitions delineated in the bill, and authorizes DTSC, the Attorney General, a district attorney, a county counsel, or a city attorney to enforce these prohibitions, including by levying a civil penalty not to exceed \$5,000 for a first violation, and \$10,000 for each subsequent violation.

### **According to the Author**

"AB 1604 will better protect public health and the environment in California by eliminating harmful bisphenol chemicals from paper receipts. Beginning January 1, 2027, manufacturers and businesses will no longer be allowed to use BPA in receipts, with a full phase-out of all bisphenol chemicals by January 1, 2028. These chemicals have been linked to detrimental health issues for women and children, which are known to cause reproductive, developmental, and behavioral harm. By removing bisphenols from receipts, this legislation helps reduce daily exposure to toxic substances and prevents contamination in recycling and composting systems – prioritizing health, safety, and environmental responsibility for all Californians."

### **Arguments in Support**

A coalition of more than 40 environmental and public health organizations writes in support,

"Exposure to bisphenols is widespread and continuous. Center for Disease Control data show that roughly 90% of Americans carry bisphenol A (BPA) and bisphenol S (BPS) in their bodies. These chemicals disrupt hormonal systems that regulate growth, fertility, and development, even at very low levels. Because BPA and BPS closely resemble estrogen, they are often described as "estrogen mimickers," with early-life exposures posing the greatest risk.

Thermal receipt paper is a major and preventable source of exposure, as bisphenols are readily absorbed through the skin. While everyone who shops is affected, cashiers face the highest risk. Occupational studies show that cashiers have significantly higher BPA and BPS levels. According to 2024 U.S. Bureau of Labor Statistics data, nearly 70% of cashiers are women and over 75% are of childbearing age, a population especially vulnerable to endocrine-disrupting chemicals.

Bisphenols are linked to serious health harms, including low birth weight, infertility, obesity, and increased cancer risk, and both BPA and BPS are listed under California's Proposition 65 for reproductive harm. The shift from BPA to BPS in receipt paper represents a regrettable

substitution. The 2023 Ecology Center report Receipt Deceit found that nearly 80% of receipts tested contained BPS, even as BPA declined to about 1%, underscoring the need to regulate bisphenols as a class. Encouragingly, the same study found that non-bisphenol alternatives increased from 2% of receipts in 2017 to 20% in 2023, demonstrating that safer options are feasible.

Not only are intentionally added bisphenols incredibly toxic, but they also render the receipt paper unrecyclable and a persistent, hazardous contaminant in paper bales... Peer-reviewed evidence has shown that paper recycling can carry bisphenols into recycled paper products (e.g., detectable BPA in recycled tissue/napkins), demonstrating how receipt paper acts as a contaminant in recycled fiber systems and imperils broader recycled feedstock."

### **Arguments in Opposition**

The California Restaurant Association writes in an "oppose unless amended" position,

"... As end-user consumers, restaurants, like all other consumers, purchase what is available. Unlike an upstream-focused intervention strategy that would efficiently direct enforcement entities' resources to target the producers of these types of receipts, we are concerned that AB 1604 allows unnecessary liability to exist.

Despite restaurants having no control over what receipt paper is sold, labeled, and manufactured, AB 1604 still holds them liable for penalties of \$5,000 for the initial instance, and \$10,000 for all subsequent instances where a restaurant may (unknowingly) provide a proof of purchase containing BPA & S, respectively. This is true even if they purchased receipt paper that was marketed or labeled as being bisphenol-free.

...In its current form, AB 1604 does not allow for the use of existing stock. Allowing the use of manufactured stock before the effective date of the restriction would limit unnecessary waste and contribute to a smooth transition to bisphenol-free receipt products. Those products will have already been produced, so any environmental impact from that production has already occurred. Without this allowance, all existing stock of paper receipts that do not comply with AB 1604 would be discarded, resulting in double the waste sent to landfills and double the cost for restaurants to purchase receipt paper in compliance with AB 1604. This is a sensible fix and would ease compliance.

...The above-mentioned points are modeled after the upstream intervention strategy deployed by the Washington Department of Ecology's regulations concerning Bisphenol use in consumer products, which AB 1604 directly mentions.

...We would welcome a collaborative approach over a punitive one. Ultimately, focusing on upstream solutions and allowing existing stock usage would accomplish the shared goal of phasing out the use of this paper while eliminating unwarranted harm to neighborhood restaurants, who already grapple with operating in one of the nation's toughest restaurant operating environments."

### **FISCAL COMMENTS**

According to the Appropriations Committee analysis, "While DTSC's authority in the bill (with the exception of the requirement to post any violation or enforcement action on its website) is discretionary, if the department elects to use the authority this bill grants it to adopt

implementing regulations and enforce violations, it would incur both near-term and ongoing costs of an unknown amount, possibly in the hundreds of thousands to low millions of dollars (TSCA). Some of these costs may be offset by penalty revenue resulting from enforcement actions.... For its part, DTSC estimates ongoing annual costs of \$1.5 million (TSCA) to hire five staff and for equipment procurement and ongoing supply costs for its Environmental Chemistry Laboratory. Tasks include regulation and scientific method development, sample collection and testing, and enforcement-related workload. TSCA is supported by the Environmental Fee; DTSC estimates it would need to raise the fee by up to 2% to generate sufficient revenues to support implementation."

The Appropriations Committee analysis also says that enactment of this bill would result in possible cost pressures of an unknown amount to the courts in increased workload. Actual costs will depend on the number of cases filed and the amount of court time needed to resolve each case.

## VOTES

### **ASM ENVIRONMENTAL SAFETY AND TOXIC MATERIALS: 7-0-0**

**YES:** Connolly, Ellis, Bauer-Kahan, Castillo, Lee, McKinnor, Papan

### **ASM JUDICIARY: 12-0-0**

**YES:** Kalra, Macedo, Lee, Bryan, Connolly, Dixon, Harabedian, Pacheco, Papan, Sanchez, Stefani, Zbur

### **ASM APPROPRIATIONS: 11-1-3**

**YES:** Wicks, Aguiar-Curry, Calderon, Caloza, Fong, Mark González, Krell, Pacheco, Pellerin, Sharp-Collins, Solache

**NO:** Tangipa

**ABS, ABST OR NV:** Hoover, Dixon, Ta

## UPDATED

VERSION: May 18, 2026

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