

STATE OF VERMONT

SUPERIOR COURT
CHITTENDEN UNIT

CIVIL DIVISION
DOCKET NO. _____

State of Vermont

vs.

**Monsanto Co., Solutia, Inc., and
Pharmacia LLC**

PLAINTIFF'S COMPLAINT

Plaintiff, the State of Vermont, as trustee of State natural resources and in its *parens patriae* capacity on behalf of the Vermont public, makes the following allegations against Defendants.

I. SUMMARY OF THE CASE

1. The State of Vermont, by and through Attorney General Charity Clark, brings this action to protect and restore State natural resources and Vermont schools from widespread contamination and injury by polychlorinated biphenyls. Defendants Monsanto Co., Solutia, Inc., and Pharmacia LLC are responsible for this contamination because they have succeeded to the liabilities of an earlier Monsanto entity, also named Monsanto Company and referred to herein as “Old Monsanto”; the Defendants are, together with Old Monsanto, referred to herein collectively as “Monsanto.”

2. Polychlorinated biphenyls (“PCBs”) are toxic and dangerous chemical compounds that were manufactured, marketed, sold, and distributed by Monsanto in the United States from approximately 1929 to 1977. During that period, Monsanto was responsible for the manufacture

of 99% or more of all PCBs used or sold within the United States. There are no known natural sources of PCBs.

3. PCBs contaminate many natural resources throughout the State of Vermont. Although PCBs were banned in the late 1970s, PCBs are highly persistent and continue to circulate in the State's waters and other natural resources. PCBs have accumulated to dangerous levels in sediment, in wildlife, and in fish, among other resources. All ten sections of Lake Champlain and the entire 7-mile reach of the Hoosic River is considered impaired for PCBs on Vermont's most current 303(d) Impaired Waters List. Because of this, Vermont has a fish consumption advisory for all of Lake Champlain and the Hoosic River. The accumulation of PCBs in natural resources, and fish in particular, poses a public health threat to the citizens of Vermont.

4. PCBs also affect schools in Vermont. For structures built prior to 1980, PCBs from construction materials leach and off-gas, resulting in indoor air contamination. This is particularly dangerous to children and adolescents, who are more susceptible to PCBs' neurodevelopmental impacts than adults. As described further below, numerous Vermont schools have tested at high levels of concern for PCB contamination, and the State is incurring millions of dollars in current statewide testing of all schools (over 300 schools).

5. These harmful PCBs were manufactured by Old Monsanto. For decades, Old Monsanto knew that its commercial PCB formulations were highly toxic and would inevitably produce precisely the contamination and human health risks that have occurred. Yet Old Monsanto misled the public, regulators, and its own customers about these key facts, maintaining that its PCB formulations were safe, were not environmentally hazardous, and did not require any special precautions for use or disposal. And indeed, to this day, Defendants continue to deny that Old Monsanto's PCB products pose a legitimate human health or environmental safety hazard that

warrants action to remove PCBs from the environment. In so doing, Defendants created a vast public nuisance throughout the State that Vermont has been addressing and will continue to address for many years to come.

6. At the time it manufactured, marketed, distributed, and sold commercial PCB formulations, often under the trade name “Aroclor,” Old Monsanto knew with substantial certainty that its PCBs were highly toxic, harmful to human and animal health, and environmentally harmful. Internally, the company acknowledged as early as 1937 that prolonged exposure to PCBs produced systemic toxic effects. In the 1950s, Old Monsanto’s Medical Office specifically advised workers not to eat lunch in the PCB department. Old Monsanto’s medical director openly declared that “[w]e know Aroclors are toxic.”

7. Old Monsanto knew with substantial certainty that its PCB formulations would inevitably volatilize and leach, leak, and escape their intended applications, contaminating runoff during naturally occurring storm and rain events and entering waterways, water bodies, sediment, soils, and plants, as well as fish and other wildlife throughout Vermont.

8. Old Monsanto also knew with substantial certainty that PCBs persist in the natural environment rather than break down over time, and that PCBs accumulate and build up over time in animal tissue, including in fish tissue and human tissue. As a result, as time passes, PCB contamination poses an increasingly hazardous threat to the health of Vermont’s citizens.

9. Nonetheless, Old Monsanto sold its PCB products for a variety of uses, including household uses. PCBs were sold for use in paints, caulks, inks, dyes, paper products, lubricants, sealants, plasticizers, coolants, hydraulic fluids, fireproofing, and industrial electrical equipment such as capacitors and transformers, among other applications. Old Monsanto also manufactured and sold various products incorporating their PCB formulations.

10. Old Monsanto's internal documents show that the company deliberately decided to keep selling PCB mixtures despite the company's awareness of the potential for mass contamination, which they inevitably caused. For example, in 1969, Old Monsanto admitted internally that there was "little probability that any action that can be taken will prevent the growing incrimination of specific polychlorinated biphenyls . . . as nearly global environmental contaminants leading to contamination of human food (particularly fish), the killing of some marine species (shrimp), and the possible extinction of several species of fish eating birds." Monsanto acknowledged that there was "no practical course of action" to prevent this mass contamination, but still insisted on taking steps "to prolong the manufacture, sale and use of these particular Aroclors as well as to protect the continued use of other members of the Aroclor series." Another internal Monsanto document was more succinct about the reasons why: "there is too much customer/market need and selfishly too much Monsanto profit to go out."

11. On a statewide basis, Monsanto's PCBs have caused significant, long-term damage to Vermont surface waters, sediments, groundwater, fish and other aquatic life, birds and other wildlife, soils, and air. Vast expanses of the State's natural resources have been damaged as a result of Monsanto's conduct.

12. Defendants' responsibility for such statewide contamination is punctuated by Old Monsanto's longstanding practice of recommending that its customers dispose of liquid PCB wastes directly into sewers despite knowing that this would directly introduce PCBs into surface waters. Old Monsanto also urged customers to vent PCB vapors to the atmosphere despite knowing that this would directly introduce PCBs into air, soils, and surface waters.

13. Perhaps the most disturbing aspect of Old Monsanto's campaign of denial and deception is its relentless efforts to encourage the use of PCBs in school construction. PCBs are

particularly dangerous to children, who are in critical stages of neurological and physical development that can be disrupted by these dangerous chemicals. Old Monsanto knew this but chose to aggressively promote PCB-containing products for use in construction, including schools. The effect of this is that a number of schools in Vermont have levels of PCBs that require remediation in order to protect human health.

14. The State has already spent millions of dollars, as required by Act 74 of the Vermont Legislature, testing public schools to identify PCBs contamination. The results of that ongoing testing will almost certainly inflict further costs on the State and its subdivisions. Even remediating a single contaminated school can cost millions of dollars. And the necessary price of such remediation is not merely paid in dollars, but in the disruption of the educational experience for children.

15. Plaintiff brings this action to protect the health and well-being of its residents, and to recover compensatory damages and natural resource damages, to ensure that Defendants bear such expense, rather than the State or its residents and taxpayers. These damages include restoration and loss-of-use damages, and costs to investigate, monitor, abate, contain, prevent, treat, and remove PCBs from the State's natural resources and Vermont schools, which damages the State seeks in its *parens patriae* capacity and as trustee of State natural resources. The State also seeks punitive damages to reflect Defendants' reprehensible conduct.

16. In this Complaint, the term "natural resources" refers to all natural resources for which the State seeks damages, which may include fish, wildlife, biota, air, surface water, groundwater, wetlands, drinking water supplies, and State-held public lands.

17. This action is separate from, and does not seek any relief for PCB contamination or injury that is sought by, Burlington School District in the United States District Court for the District of Vermont (2:22-cv-00215-wks) against Defendants.

II. PLAINTIFF

18. Plaintiff is the State of Vermont, as represented by and through the Attorney General of the State of Vermont, with its principal office at 109 State Street, Montpelier, Vermont 05609-1001.

19. The State brings this action in its capacity as sovereign, as trustee of State natural resources contaminated and injured by Defendants, and pursuant to its *parens patriae* authority on behalf of the Vermont public, including for contamination and injury to Vermont schools.

20. The State has standing *parens patriae* to protect the health and well-being, both physical and economic, of its residents. PCBs substantially affect a significant segment of Vermont's population.

21. Subject to paragraph 17 of this Complaint, "Vermont schools" refers to all "public schools," "approved independent schools," and "recognized independent schools" as those terms are defined in 16 V.S.A. § 11.

22. The State also brings this action based upon its statutory authority to protect State natural resources, and its common law police power. This power includes, but is not limited to, its power to prevent pollution of the State's natural resources, to prevent nuisances, and to prevent and abate hazards to public health, safety, welfare, and the environment.

III. DEFENDANTS

23. Defendant Monsanto Co. is a corporation organized and existing under the laws of the State of Delaware, with a principal place of business located at 800 North Lindbergh

Boulevard, St. Louis, Missouri, 63167. Following a merger transaction that closed in 2018, Monsanto Co. is a wholly owned subsidiary of Bayer AG.

24. Defendant Solutia, Inc. is a corporation organized and existing under the laws of the State of Delaware, with a principal place of business located at 575 Maryville Centre Dr., St. Louis, Missouri, 63141. Solutia, Inc. is a wholly owned subsidiary of Eastman Chemical Company.

25. Pharmacia LLC is a limited liability company organized and existing under the laws of the State of Delaware, with a principal place of business at 100 Route 206 North, Peapack, New Jersey, 07977. Pharmacia LLC is a wholly owned subsidiary of Pfizer, Inc.

26. Defendant Pharmacia LLC, formerly known as Pharmacia Corporation, is the successor to Old Monsanto.

27. Old Monsanto operated an agricultural products business, a pharmaceutical and nutrition business, and a chemical products business.

28. Through a series of transactions beginning in approximately 1997, Old Monsanto's businesses were reorganized to form three separate corporations. The corporation now known as Monsanto Co. operates Old Monsanto's agricultural products business. Old Monsanto's chemical products business is now operated by Solutia, Inc. Old Monsanto's pharmaceutical business is now operated by Pharmacia LLC.

29. Solutia, Inc. was organized by Old Monsanto to own and operate its chemical manufacturing business, and assumed the operations, assets, and liabilities of Old Monsanto's chemical business.

30. Although Solutia, Inc. assumed and agreed to indemnify Pharmacia LLC for certain liabilities related to the chemicals business, Defendants have also entered into agreements to share

or apportion liabilities, and/or to indemnify one or more entities, for claims arising from Old Monsanto's chemical business, including the manufacture and sale of PCBs and PCB-containing products.

31. In 2003, Solutia, Inc. filed a voluntary petition for reorganization under Chapter 11 of the U.S. Bankruptcy Code. Solutia, Inc.'s reorganization was completed in 2008. In connection with Solutia, Inc.'s Plan of Reorganization, Defendants entered into several agreements under which Monsanto Co. continues to manage and assume financial responsibility for certain tort litigation and environmental remediation related to the chemicals business.

32. Eastman Chemical Co. ("Eastman") reported in its 2020 Form 10-K that it "has been named as a defendant in several [legacy tort] proceedings and has submitted the matters to [New] Monsanto, which was acquired by Bayer AG in June 2018, as Legacy Tort Claims [as defined in a settlement agreement with Monsanto arising out of Solutia, Inc.'s bankruptcy proceedings]. To the extent these matters are not within the meaning of Legacy Tort Claims, Solutia could potentially be liable thereunder. In connection with the completion of its acquisition of Solutia, Eastman guaranteed the obligations of Solutia and Eastman was added as an indemnified party under the Monsanto Settlement Agreement."

33. In its Form 10-K for the period ending August 31, 2017, filed with the U.S. Securities and Exchange Commission (the last such filing before Bayer AG acquired Monsanto Co.), Monsanto Co. represented that it: "is involved in environmental remediation and legal proceedings to which Monsanto is a party in its own name and proceedings to which its former parent, Pharmacia LLC or its former subsidiary, Solutia, Inc. is a party but that Monsanto manages and for which Monsanto is responsible pursuant to certain indemnification agreements. In addition, Monsanto has liabilities established for various product claims. With respect to certain of these

proceedings, Monsanto has established a reserve for the estimated liabilities.” The filing specifies that the company held \$277 million in that reserve as of August 31, 2017.

IV. JURISDICTION AND VENUE

34. This Court has jurisdiction over the subject matter of this action pursuant to 4 V.S.A. § 31. This Court may exercise jurisdiction over Defendants because they either are or at the relevant time were: authorized to do business in Vermont, registered with the Vermont Secretary of State, transacting sufficient business with sufficient minimum contacts in Vermont, or otherwise intentionally availing themselves of the Vermont market through the manufacturing, marketing, distribution, and/or sale of PCBs and PCB-containing products in Vermont so as to satisfy minimum contacts, be causally linked to the State’s claims, and to render the exercise of jurisdiction over Defendants by the Vermont courts consistent with traditional notions of fair play and substantial justice.

35. Venue is proper in this Court because the State is the plaintiff, and State natural resources and Vermont schools have been contaminated, injured, and damaged by PCB contamination in Chittenden County.

V. PCBs ARE DANGEROUS CHEMICALS

36. Old Monsanto began manufacturing PCB mixtures in 1935 after acquiring Swann Chemical Company, which manufactured PCBs from 1929 to 1935. Old Monsanto continued to manufacture such products until the late 1970s.

37. PCBs are a class of synthetic organic chemical compounds in which a minimum of two, and a maximum of ten, chlorine atoms are attached to a biphenyl molecule. There are no known natural sources of PCBs in the environment.

38. There are 209 distinct PCB compounds (known as congeners) with two to ten chlorine atoms on a biphenyl molecule. The number and placement of the chlorine atoms on the biphenyl molecule determines how the congener is named and dictates its environmental fate and toxicity. PCBs generally occur as mixtures of congeners.

39. Old Monsanto manufactured PCB mixtures primarily under the “Aroclor” trade name. Aroclors are differentiated principally by the composition of chlorine by weight, so, for example, “Aroclor 1254” means the mixture contains approximately 54% chlorine by weight. Generally, the higher the chlorine content of a PCB mixture, the greater its chemical stability and environmental persistence.

40. Old Monsanto’s commercial PCB formulations sought to maximize the products’ stability, and thus also their persistence and resistance to degradation. PCBs do not burn easily, are relatively insoluble in water, and adsorb to solids and particulate matter.

41. PCBs are “semivolatile” in that they can volatilize, or form a gas. PCB volatilization rises with increases in temperature, *i.e.*, more PCBs are released to air from PCB-containing products or PCB-contaminated sites as temperature increases. Small amounts of PCBs vaporize from PCB-containing products and PCB-contaminated sites, resulting in local and long-range transport of PCB vapors, at normal environmental temperatures.

42. Defendants’ PCBs entered the air, waters, sediments, and soils during their ordinary and prescribed uses. Indeed, PCBs gradually escaped and dispersed from their common applications, *e.g.*, in road paint or caulking, into the natural environment due to the chemical compounds’ tendency to vaporize, particularly when exposed to heat (such as when road paint or building materials are exposed to the sun over time). As vapors, PCBs travel through the air,

eventually settling in nearby soil, sediment, or waterbodies, and continue to circulate in air indefinitely.

43. Similarly, PCBs can be released by the grinding, scraping, natural deterioration, and removal of caulking and other construction materials that include PCBs, resulting in the contamination of nearby soil. PCBs can also permeate dust and dirt particulates, which then migrate and contaminate nearby soil and sediment.

44. Defendants' PCBs also entered the environment from spills or leaks in the ordinary course of business, such as through transport of the chemicals; from leaks or fires in transformers, capacitors, or other products containing PCBs; and from the burning of wastes in some municipal or industrial incinerators.

45. Old Monsanto prescribed that PCBs and PCB-contaminated wastes should be disposed of in the ordinary course in normal, unlined landfills and pits, from which they easily escaped, leached, and leaked into the surrounding environment. Old Monsanto instructed customers to drain PCB-filled heat transfer systems and other equipment and to dispose of the PCB wastes without taking any particular precautions.

46. Old Monsanto also advised customers to dispose of liquid PCB wastes directly into sewers, despite knowing that this would directly introduce PCBs into surface waters, and to vent PCB vapors to the atmosphere, despite knowing that this would directly introduce PCBs into air, soils, and surface waters.

47. Once in the environment, PCBs do not break down readily and remain for decades absent remediation.

48. In water, PCBs travel along currents and attach to bottom sediment or particles in the water and evaporate into air or settle into sediment. Sediments contaminated with PCBs also release PCBs into surrounding water.

49. PCBs also contaminate groundwater with lower chlorinated PCB congeners, in particular, dissolving into and contaminating groundwater. Higher chlorinated PCBs generally do not dissolve in water, remaining in soils or other media. In highly permeable aquifers, however, PCBs are able to migrate through groundwater by attaching to particulate matter.

50. In soil, PCBs combine with soil organic matter and remain in soil for many years. PCBs damage plants and microorganisms; they harm the whole soil biosphere, ultimately threatening human health. Of particular concern are wildlife that have significant long-term exposure to soil, such as burrowing animals. Soil contamination may also lead to human exposure through incidental ingestion, inhalation, or dermal contact.

51. As a gas, PCBs can accumulate in the leaves and aboveground parts of plants and food crops, and pose direct human health threats through human exposure to PCB-contaminated air.

52. PCBs are soluble in lipids, including body fat, and bioaccumulate particularly well in fish and marine animals, even to levels that may be many thousands of times greater than PCBs in the surrounding water. As such animals are consumed, PCB levels biomagnify, becoming more highly concentrated in animals higher up the food chain, including humans.

53. Humans are exposed to PCBs primarily from eating contaminated food, drinking or swimming in contaminated water, or breathing contaminated air, particularly the air of schools contaminated by Monsanto's conduct. The major dietary sources of PCBs are fish (especially

sportfish caught in contaminated waterbodies), meat, and dairy products. PCBs also collect in milk fat and can enter the bodies of infants through breast-feeding.

54. Fetuses in the womb can also be exposed to PCBs. Studies show that babies born to persons exposed to high concentrations of PCBs in the workplace or from eating PCB-contaminated fish suffer from lower birth weight than other babies. Babies born to persons exposed to PCBs before and during pregnancy showed abnormal responses to infant behavioral tests, including motor skills, and experienced short-term memory deficiencies.

55. Many studies have examined how PCBs affect human health. Human health effects associated with PCB exposure include, without limitation, liver, thyroid, dermal, and ocular changes, immunological alterations, neurodevelopmental and neurobehavioral changes, reduced birth weight, reproductive toxicity, and cancer.

56. Liver changes associated with PCB exposure include liver enlargement, microsomal enzyme induction (altered metabolism), increased levels of enzymes indicative of hepatocellular damage and serum and tissue biochemical changes indicative of liver dysfunction, and histopathological changes concerning fat deposition, as well as fibrosis and necrosis.

57. Thyroid changes associated with PCB exposure include goiter and increased thyroid gland volume, histological changes in the thyroid gland indicative of stimulation of the gland and disruption of the processing of follicular colloid needed for normal production and secretion of thyroid hormone, depressed thyroid hormone levels, and modified (increased or decreased) activity in producing and transferring enzymes necessary for thyroid hormone production. Due to the importance of the thyroid to brain development, PCBs' effects on the thyroid produce neurodevelopmental effects.

58. Dermal changes associated with PCB exposure include skin irritation, chloracne, and nail and skin pigmentation changes.

59. Ocular changes associated with PCB exposure include hypersecretion of Meibomian glands, abnormal pigmentation of the conjunctiva, and swollen eyelids. Immunological alterations associated with PCB exposure include decreased antibody levels, changes in T-cell subsets, and increased susceptibility to respiratory tract infections, infectious illnesses, and middle ear infections.

60. Neurological changes associated with PCB exposure include abnormal reflexes and deficits in memory, learning, impulse control, and IQ. Such changes impact infants and children more severely than adults. PCBs are known neurotoxins.

61. Reproductive changes associated with PCB exposure include menstrual disturbances and effects on sperm morphology and production, all of which can result in difficulty conceiving.

62. PCBs are associated with a number of cancers, including cancer of the liver, biliary tract, intestines, and skin (melanoma).

63. In 1996, the United States Environmental Protection Agency (“EPA”) assessed PCB carcinogenicity based on data related to Aroclors 1016, 1242, 1254, and 1260. EPA’s cancer assessment was peer-reviewed by fifteen experts on PCBs, including scientists from government, academia, and industry. All experts agreed that PCBs are probable human carcinogens.

64. The U.S. Department of Health and Human Services’ National Toxicology Program considers PCBs to be “reasonably anticipated to be human carcinogens.”

65. The International Agency for Research on Cancer (“IARC”), an intergovernmental agency forming part of the World Health Organization of the United Nations, concluded in March

2013, based on the assessments of twenty-six experts from twelve countries, that PCBs are known human carcinogens.

66. In its formal 2016 report, the IARC stated, “There is sufficient evidence in humans for the carcinogenicity of [PCBs]. PCBs cause malignant melanoma. Positive associations have been observed for non-Hodgkin lymphoma and cancer of the breast . . . PCBs are carcinogenic to humans[.]”

67. In addition to being highly toxic to humans, Monsanto’s commercial PCB mixtures are highly toxic to fish and wildlife. Toxicity studies have demonstrated that commercial PCB mixtures induce hepatotoxicity, immunotoxicity, neurotoxicity, and reproductive toxicity in birds and mammals.

68. Studies of bird populations have drawn strong correlations between elevated PCB concentrations in blood and declining bird populations, as well as increased frequency of developmental abnormalities and deformities.

69. PCBs have also been shown to cause eggshell thinning in many bird species resulting in reproductive failure and generally decreased reproductive capacity.

70. Mammalian studies have shown that PCB exposure adversely affects patterns of survival, reproduction, growth, metabolism, and accumulation.

71. Studies on bats, dogs, cats, foxes, minks, otters, bears, rats, monkeys, and other mammals, including marine mammals, have generated strong associations between exposure to commercial PCB mixtures and a host of health effects, including hepatomegaly (enlarged liver), necrosis, atrophy of lymphoid tissues, suppression of antibody responses, impaired behavior and development, catecholamine alterations (neurotransmitter interference), increased abortion, low birth weight, embryoletality, teratogenicity (embryotic malformation), gastrointestinal

ulceration, bronchitis, chloracne, edema, hyperplasia (cell proliferation), mutagenicity, and preneoplastic changes (tumor development).

72. Aquatic organisms are also sensitive to PCB contamination and suffer adverse effects in proportion to PCB exposure.

73. For instance, studies of reproductive effects on salmon, bass, zebrafish, and other fish species have demonstrated decreased reproductive success in populations with high PCB exposure, and PCB concentrations are directly correlated to hatching success rates.

74. PCBs also impact the reproduction of reptiles such as snapping turtles. Studies have found strong associations between low snapping turtle egg hatch rates and increased frequency of deformed hatchlings on one hand and elevated PCB concentrations in such eggs on the other.

VI. OLD MONSANTO KNEW PCBs WERE DANGEROUS CONTAMINANTS AT THE TIME OF MANUFACTURE, MARKETING, SALE, AND DISTRIBUTION

75. Old Monsanto knew its PCB compounds were highly toxic as early as 1937. Old Monsanto also knew well before 1970 that a number of studies, both internal and external, had demonstrated human and animal toxicity and prevalent contamination of waters and soils.

76. Old Monsanto developed an early, sophisticated understanding of the dangers associated with PCB compounds and PCB-containing products, such as Aroclors.

77. In 1936, many workers at a New York facility using PCBs operated by Halowax Corporation were afflicted with severe chloracne, a serious skin disorder characterized by chronic inflammation of the skin causing eruptions of cysts and pustules. Three workers died and autopsies revealed severe liver damage in two of them.

78. Halowax Corporation asked Harvard University researcher Cecil K. Drinker to investigate the issue, and Dr. Drinker's analysis was presented at a 1937 meeting attended by high-

level personnel employed by Old Monsanto. Dr. Drinker's investigation revealed that rats exposed to PCBs suffered severe liver damage. Dr. Drinker's results were published in a September 1937 issue of the Journal of Industrial Hygiene and Toxicology.

79. That same year, Old Monsanto admitted in an internal report that PCBs produce "systemic toxic effects" as a result of prolonged exposure to PCB vapors or oral ingestion, and that bodily contact with PCBs produces "an acne-form skin eruption."

80. Old Monsanto subsequently retained Dr. Drinker to conduct further animal studies. In September 1938, Dr. Drinker confirmed liver damage in rats exposed to various formulations of PCB compounds. Other studies also explored and confirmed the toxicity of chlorinated hydrocarbons like PCBs. A 1939 study published in the Journal of Industrial Hygiene and Toxicology, for example, referenced the worker fatalities investigated by Dr. Drinker and went on to conclude that pregnant women and persons previously affected by liver disease are particularly susceptible to adverse effects from chlorinated hydrocarbons, like PCBs.

81. In February 1950, Old Monsanto Medical Director Dr. R. Emmet Kelly acknowledged that when workers fell ill at an Indiana factory that used PCBs in the manufacturing process, he immediately "suspected the possibility that the Aroclor fumes may have caused liver damage."

82. A 1955 report on the production of Aroclor prepared by Old Monsanto likewise acknowledged that in the "early days of development," workers at a plant in Anniston, Alabama processing PCBs had developed chloracne and liver problems.

83. In 1955, Dr. Kelly further documented Old Monsanto's clear understanding: "We know Aroclors are toxic[.]" Dr. Kelly also appeared to recognize the scope of Old Monsanto's potential legal liability, explaining that "our main worry is what will happen if an individual

develop[s] any type of liver disease and gives a history of Aroclor exposure. I am sure the juries would not pay a great deal of attention to [maximum allowable concentration levels].”

84. Old Monsanto’s Medical Department prohibited workers from eating lunch in the Aroclor department in November 1955. The Medical Department memorandum explained that “Aroclor vapors and other process vapors could contaminate the lunches unless they were properly protected” and that “[w]hen working with this material, the chance of contaminating hands and subsequently contaminating the food is a definite possibility.”

85. In January 1957, Dr. Kelly reported that the U.S. Navy had refused to use Old Monsanto’s PCB products in submarines. The Navy had tested Pydraul 150 (one of Old Monsanto’s PCB products) on rabbits. The Navy informed Old Monsanto that skin applications had “caused death in all of the rabbits tested” and that the “[t]he inhalation of 10 milligrams of Pydraul 150 per cubic meter or approximately 2 tenths of a part of the Aroclor component per million for 24 hours a day for 50 days caused, statistically, definite liver damage.” As Dr. Kelly summarized in a memorandum, “No matter how we discussed the situation, it was impossible to change their thinking that Pydraul 150 [a PCB product marketed by Old Monsanto] is just too toxic for use in a submarine.”

86. Despite receiving such data, four months later in April 1957, Elmer P. Wheeler, Assistant Director of the Medical Department stated in a letter to Standard Oil Company that Pydraul 150 is “practically innocuous” when fed to rats and that “Pydraul 150 was not more irritating than a 10% soap solution” in rabbit skin and eye studies. These statements were false, and contradicted what the Navy had just informed Old Monsanto about the damning results from the Navy’s own rabbit study. Similarly, Dr. Kelly assured U.S. Steel Corporation in 1955 that “[w]e have tested Pydraul F-9 very completely from the chronic point of view I can assure

you that exposures to large quantities of Pydraul F-9 for short periods of time . . . will not cause any toxic effects on the worker.” Dr. Kelly’s statement that Monsanto had undertaken chronic toxicity studies was false.

87. In 1958, Old Monsanto again attempted to downplay customer concerns about its PCB products. Socony Mobil had made a “specific request” to use a label warning its own customers about Pydraul purchased from Monsanto for resale. The label would have warned customers to “[a]void prolonged breathing of vapors or mists.” According to a 1958 memo sent by an Old Monsanto employee to Old Monsanto’s medical department, “the wording . . . is not in the best interest of Pydraul sales,” and it was important to avoid giving “any unnecessary information which could very well damage [Old Monsanto’s] sales position in the synthetic hydraulic fluid field.” In the same year, Dr. Kelly sent a letter to Socony Mobil objecting to any attempt to provide a “do not breathe fumes” instruction to Pydraul users. Dr. Kelly told Socony Mobil that the warning was suitable to a “pretty toxic fluid,” and contradicted Old Monsanto studies which showed that Pydrauls were (according to Dr. Kelly) non-lethal in rats and rabbits—assertions by Dr. Kelly that contradicted the Navy’s deadly tests on rabbits only three years before: “While . . . it is none of our affair how you people label your products, we do have some interest inasmuch as it might create some confusion” about Old Monsanto’s labelling.

88. In a March 1962 letter to the U.S. Public Health Service, Dr. Kelly acknowledged Old Monsanto’s “extensive inhalation tests” on certain Aroclors, and acknowledged that, “if sufficient material were inhaled, liver problems would develop.” But Dr. Kelly downplayed these risks, by falsely stating that “our experience and the experience of our customers over a period of nearly 25 years, has been singularly free of difficulties.”

89. In July 1965, Dr. Kelly reassured another Old Monsanto customer (E.I. duPont de Nemours & Company) that Pydraul products were harmless. He repeated Monsanto's false statement that Pydraul 150 was "practically innocuous when fed" to rats and "no more irritating than a 10 per cent soap solution" in rabbit skin and eye tests. Dr. Kelly went on to state that "[t]he question of possible carcinogenesis" was something that "certainly can be dismissed completely, as we have no reason to believe the components of this compound would have this type of action." Once again, Dr. Kelly failed to tell the customer about the 100% fatality rate in the Navy's rabbit tests, or about the extensive other data showing the toxicity of PCBs and Pydrauls specifically. Moreover, Monsanto had very deliberately decided not to conduct the sort of cancer studies necessary to support Dr. Kelly's assertion that any possibility of carcinogenicity "can be dismissed completely."

90. Similarly, an October 1971 internal Monsanto report noted that customers using FR fluid—a product containing PCBs—in their food process systems were told by Monsanto representatives that these products "were completely safe from contamination and could even be drunk without harmful side effects."

91. Notably, at the same time it was manufacturing PCBs, Old Monsanto also manufactured and researched the toxicological profile and environmental effects of dichloro-diphenyl- trichloroethane ("DDT"), another now-infamous chlorinated hydrocarbon similar to PCBs.

92. By the late 1940s, Old Monsanto had already researched and compiled an extensive toxicological profile of DDT showing that it is extremely toxic to human and environmental health. Indeed, by then, scientific researchers had established that DDT and other chlorinated

hydrocarbons are absorbed and stored in fatty tissue of living organisms exposed to them and pass these contaminants on to their offspring.

93. Extensive scientific research establishing the toxicity and bioaccumulative and biopersistent nature of DDT and other chlorinated hydrocarbons was published from the 1940s to the 1960s. Old Monsanto produced DDT and was acutely aware of this research. Old Monsanto was also acutely aware of the similarities between DDT and PCBs.

94. For instance, the American Journal of Public Health published a 1950 report warning that “chlorinated hydrocarbons, such as DDT and chlordane, are soluble in fats and are stored in the fatty tissues of the body. These compounds possess a high order of toxicity, and their uncontrolled or unwise use is not desirable.” As Old Monsanto knew, or at a minimum should have known, the same was and is true of its PCB compounds.

95. Despite its early knowledge of the human health and environmental hazards PCBs posed, Old Monsanto for decades went to great lengths to protect its profitable PCB franchise, and aggressively manufactured, marketed, sold, and distributed its commercial PCB formulations (and discharged PCB wastes generated during production directly into the environment), deceiving regulators and the public in the process.

**VII. EVEN AFTER PCBS WERE WIDELY DISCOVERED IN THE ENVIRONMENT,
OLD MONSANTO DOUBLED DOWN ON A CAMPAIGN OF DECEPTION TO
PROTECT ITS PCB FRANCHISE**

96. In 1966, the New Scientist published a short article (“Report of a New Chemical Hazard”), summarizing recent research by Søren Jensen, a Swedish chemist at Stockholm University’s Institution of Analytical Chemistry, which estimated that PCBs may be spreading through environments in high volumes due to their use by manufacturing interests.

97. Dr. Jensen had accidentally found enormous quantities of PCB compounds in wildlife while analyzing DDT accumulations. Dr. Jensen presented his findings to the scientific community in 1966, including that PCBs “appear[] to be the most injurious chlorinated compounds of all tested.” Dr. Jensen reported that the “main characteristic[s]” of PCBs include their “very high stability,” lack of “metaboliz[ation] in living organism[s],” and their nonflammability.

98. Old Monsanto’s Medical Director, Dr. Kelly, was aware of Dr. Jensen’s findings at the time.

99. In December 1968, Nature published an article by Dr. Richard Risebrough of the University of California entitled “Polychlorinated Biphenyls in the Global Ecosystem.” The article assesses PCB presence in wildlife and reports high concentrations of PCBs detected in peregrine falcons and thirty-four other bird species, drawing an immediate connection between PCBs and the catastrophic decline of peregrine falcon populations in the United States.

100. Old Monsanto personnel took note of Dr. Risebrough’s article, recognizing the public-relations disaster it portended. W.R. Richard, manager of Old Monsanto’s Research and Development of Organics Division, wrote in early 1969 that the article shows not only that PCBs are “toxic substance[s]” but also because they are easily and broadly distributed in air and water, they are “an uncontrollable pollutant . . . causing [the] extinction of [the] peregrine falcon . . . [and] endangering man himself.”

101. Also in 1969, Dr. Jensen published the formal results of his years-long research into PCBs in the environment. Dr. Jensen’s research demonstrated very high PCB concentrations in Baltic Sea fauna such as white-tailed sea eagles. A 2013 assessment of this historical data summarized the implications of Dr. Jensen’s results: “PCBs had entered the environment in large quantities for more than 37 years and were bio-accumulating in the food chain.”

102. In September 1969, W.R. Richard, an Old Monsanto researcher, wrote a memorandum entitled “Defense of Aroclor.” Richard’s memorandum noted that critics of PCBs have raised a multitude of different issues with the compounds, so “[w]e can’t defend vs. everything. Some animals or fish or insects will be harmed. Aroclor degradation rate will be slow. Tough to defend against. Higher chlorination compounds will be worse [than] lower chlorine compounds. Therefore, we will have to restrict uses and clean-up as much as we can, starting immediately.”

103. In the same document, Richard admitted that PCBs will leak from virtually all applications, including such “closed” or “semi-closed” applications as electrical (transformer/capacitor) and heat transfer or air compressor applications.

104. That same month, Old Monsanto formed what it dubbed the “Aroclor Ad Hoc Committee” to strategize about defending its PCB business against growing public outcry and growing evidence of PCBs’ toxicity and environmental harms. The minutes of the Committee’s first meeting observed that PCBs had been found in fish, oysters, shrimp, and birds, along the coasts of industrialized areas including Great Britain, Sweden, the Rhine River, Lake Michigan, Pensacola Bay, and in wildlife throughout the Western Hemisphere.

105. The Committee acknowledged that normal and intended uses of PCB-containing products were the cause of the widespread contamination: “In one application alone (highway paints), one million lbs/year are used. Through abrasion and leaching we can assume that nearly all of this Aroclor winds up in the environment.”

106. The Committee worked to formulate a response to growing concerns over PCBs, including those reflected by the U.S. Department of the Interior’s Fish and Wildlife Service (which found PCBs in dead eagles and marine birds), the Bureau of Commercial Fisheries (which found

PCBs in the river below Old Monsanto's Pensacola plant), and the U.S. Food and Drug Administration (which found PCBs in milk supplies).

107. The Committee's agenda was to: "1. Protect continued sales and profits of Aroclors; 2. Permit continued development of new uses and sales; and 3. Protect the image of the Organic Division and the Corporation as members of the business community recognizing their responsibilities to prevent and/or control contamination of the global ecosystem."

108. As the minutes reflect, "there is little probability that any action that can be taken will prevent the growing incrimination of specific polychlorinated biphenyls . . . as nearly global environmental contaminants leading to contamination of human food (particularly fish), the killing of some marine species (shrimp), and the possible extinction of several species of fish eating birds."

109. However, while "there is no practical course of action that can so effectively police the uses of these products as to prevent environmental contamination . . . [t]here are . . . a number of actions which must be undertaken to prolong the manufacture, sale and use of these particular Aroclors as well as to protect the continued use of other members of the Aroclor series."

110. In keeping with the corporate strategy reflected in the Aroclor Ad Hoc Committee meeting minutes and elsewhere, Old Monsanto not only continued producing Aroclors through 1969, but increased production that year and in 1970, which were the highest volume production years in the history of PCBs.

111. Old Monsanto likewise vigorously protected its Aroclor brand from regulatory intrusion. Old Monsanto falsely told New Jersey regulators in July 1969 that it "d[id] not believe the polychlorinated biphenyls to be seriously toxic," that Old Monsanto could not "conceive of how the PCBs can become widespread in the environment," and that, in light of PCBs' chemical

inertness, Old Monsanto “would anticipate no problems associated with the environment from refuse dumps.”

112. Elmer Wheeler, in Old Monsanto’s Medical Department, circulated laboratory reports discussing results of animal studies in January 1970, in which Dr. Wheeler noted that “PCBs are about the same as DDT in mammals[,]” the dangerous characteristics and environmental threats of which Old Monsanto had known for decades.

113. At the same time that it was internally acknowledging that PCBs are “about the same” as DDT, in January 1970, the journal Environment published a note authored by Old Monsanto: “Monsanto Statement on PCB.” The company note acknowledged that recent studies, including Dr. Jensen’s studies, indicated PCBs’ widespread presence in the natural environment, and expressed the company’s “concern[] over the situation.”

114. However, the note defended PCBs by deploying a variety of false statements that Old Monsanto used on multiple occasions in the late 1960s and early 1970s to minimize the negative impacts of PCBs.

115. In particular, Old Monsanto claimed that (a) PCBs cannot escape so-called “closed” applications, where PCBs are “completely sealed in metal containers”; (b) PCBs cannot escape “open” applications such as adhesives, elastomers, and surface coatings; (c) PCBs are not “to our knowledge” used in “household products”; and (d) it is simply “not true” that PCBs are “highly toxic.”

116. Old Monsanto knew that all of these statements were untrue and would tend to mislead regulators and the public when they published them.

117. Similarly, Old Monsanto falsely asserted in the note that research it conducted into PCB toxicity in fish and mammals and PCB presence in waters and soils provided “[v]ery early results . . . that PCBs are not highly toxic.”

118. Contrary to their published claims, Old Monsanto knew PCBs would leach, leak, off-gas, and escape their ordinary and intended applications, including closed applications, and cause significant injury to natural resources and human life.

119. Old Monsanto also knew that the PCBs they produced were used in “household products” and aggressively promoted the use of PCBs in “household products.” For example, in a 1960 brochure, Old Monsanto promoted the use of Aroclors in a wide variety of household and personal products including home appliances, food cookers, potato chip fryers, thermostats, automotive transmission oil, insecticides, waxes, jewelry, lubricants, adhesives, moisture-proof coatings, printing inks, papers, sealants and caulking compounds, tack coatings, asphalt, paints, varnishes, lacquers, masonry coatings for swimming pools, stucco homes, and protective or decorative coatings for a number of other finishes.

120. Old Monsanto also knew that certain of its largest PCB customers, such as NCR Corporation, used large volumes of Aroclor products in the production of paper products, which would be recycled by paper mills for reuse in new paper products, and that such recycled paper products would be used for, among other things, food packaging.

121. A 1961 brochure published by Old Monsanto explained that Aroclors are used in “lacquers for women’s shoes,” as a “wax for the flame proofing of Christmas trees,” as “floor wax,” as an adhesive for bookbinding, leather, and shoes, and as invisible marking ink used to make chenille rugs and spreads.

122. In February 1970, Old Monsanto's high-level personnel circulated a talking-points memorandum to be used in engaging with customers raising concerns over PCB toxicity. Although Old Monsanto had reformulated certain high-chlorine products (Aroclor 1254 and 1260) to lower the degree of chlorination, it instructed employees to resist product returns of the older formulations, explaining that Old Monsanto "can't afford to lose one dollar of business." The memorandum instructed employees to advise customers to use up their existing Aroclor 1254 and 1260 stock before topping up with new fluids: "We don't want to take fluid back."

123. Despite knowing that PCBs and PCB-containing products would inevitably cause environmental contamination and pose substantial public health risks as a result of ordinary and intended usage, Old Monsanto issued no public warning or instruction about PCBs or the health and environmental safety hazards they present.

124. Instead, Old Monsanto expressly denied the harmfulness and environmental toxicity of PCBs, as demonstrated, for example, in the 1970 company note published in the journal *Environment*, as well as in direct communications with regulators. Old Monsanto even withheld crucial safety and handling information from its own direct customers until the early 1970s.

125. Even its warnings and instructions to direct customers in the early 1970s failed to adequately advise of the true nature of the environmental and human health risks associated with Old Monsanto's products. When customers sought safe disposal instructions, Old Monsanto instructed them to deposit PCB wastes in ordinary landfills, knowing this would inevitably cause long-term contamination of natural resources.

126. Old Monsanto executive William Papageorge wrote in a letter dated March 6, 1970 that, "All waste containing PCB's [sic] is at present hauled to the dumps the plants have been using for other plant waste. We recognize this is not the ultimate, since PCB's [sic] could eventually

enter the environment, but we will continue this practice until better methods of disposal are available.”

127. Mr. Papageorge further acknowledged in testimony provided in 1975 to the Wisconsin Department of Natural Resources that Old Monsanto generally recommended disposal of PCB-contaminated wastes in landfills.

128. As the government investigations and formal inquiries into the dangers of PCBs amplified in the late 1960s and early 1970s, Old Monsanto doubled down on its campaign of misinformation and denial.

129. For example, Howard S. Bergen, from Old Monsanto’s Functional Fluids Division, sent a letter dated March 27, 1969, to the Regional Water Quality Control Board of the San Francisco Bay Region, in which he claimed that PCBs are associated with “no special health problems,” and that due to PCBs’ chemical inertness, “we would anticipate no problems associated with the environment from refuse dumps.” Both of those statements were false and Old Monsanto knew they were false.

130. Dr. Wheeler, Assistant Director of Old Monsanto’s Medical Department, told a representative of the National Air Pollution Control Administration in May 1969 that Old Monsanto “cannot conceive how the PCBs can be getting into the environment in a widespread fashion.” The representative promised to convey this message to Congress.

131. Old Monsanto similarly claimed ignorance of how PCBs could be entering the environment in large quantities to a number of other public entities, regulators, and authorities.

132. In July 1969, the company claimed that, “[b]ased on the available data, manufacturing and use experience, we do not believe PCBs to be seriously toxic,” adding that, “we are unable at this time to conceive of how the PCBs can become widespread in the

environment. It is certain that no applications to our knowledge have been made where the PCB's [sic] would be broadcast in the same fashion as the chlorinated hydrocarbon pesticides have been."

Those statements were false—as Old Monsanto knew.

133. Old Monsanto's Dr. Kelly communicated with the Ohio State Board of Health in March 1970 regarding the detection of PCBs, particularly Aroclor 1254, in samples of milk from at least three cow herds in Ohio. The Board traced this contamination back to Aroclor-containing paints flaking off and possibly leaching from the interior walls of the silos in which the milk was stored. The Board reported to Old Monsanto that it would have to destroy about 150 tons of milk, valued at about \$30 per ton. The Board also reported that there may be fifty other silos similarly contaminated in the state that were painted with the same formulation.

134. In response, Dr. Kelly communicated to other Old Monsanto officials: "All in all, this could be quite a serious problem, having legal and publicity overtones. This brings us to a very serious point. When are we going to tell our customers not to use any Aroclor in any paint formulation that contacts food, feed, or water for animals or humans? I think it is very important that this be done."

135. Old Monsanto never heeded Dr. Kelly's admonition to warn of the dangers of similar applications of Aroclors. Instead, Old Monsanto ultimately withdrew its PCB-containing Aroclor formulations intended for use as plasticizers or other "open" uses in or around 1971, but declined to inform or advise those utilizing such products for open use applications to take steps to prevent environmental contamination.

136. An internal memorandum prepared by Dr. Kelly dated February 10, 1967 expressed his concern about PCB contamination: "We are very worried about what is liable to happen in the [United States] when the various technical and lay news media pick up the subject [of PCB

contamination]. This is especially critical at this time because air pollution is getting a tremendous amount of publicity in the United States.” The memorandum noted that some of Old Monsanto’s largest PCB customers, such as NCR Corporation, had been pressing Old Monsanto to furnish more information on PCB safety, but that the company had dodged their inquiries.

137. Old Monsanto’s misrepresentations and omissions to public entities and others were designed to conceal the toxicity and hazardousness of its PCB formulations to humans and the natural environment to salvage what Old Monsanto repeatedly emphasized was “one of Monsanto’s most profitable franchises,” generating significant annual revenues.

138. An internal presentation to Old Monsanto’s Corporate Development Committee generated in or around 1969 advised against exiting the Aroclor market despite clear knowledge of Aroclor’s dangers because “there is too much customer/market need and selfishly too much Monsanto profit to go out.”

139. Another internal memorandum remarked, “[t]here can not [sic] be too much emphasis given to the threat of curtailment or outright discontinuance of the manufacture and sales of this very profitable series of compounds.”

140. In August 1970, a manager in Monsanto’s Environmental Control department wrote a letter to Buffalo Children’s Hospital in response to the Hospital’s inquiry about “the possible toxic effects of PCB.” The letter stated that “Monsanto has manufactured Aroclors for about 40 years and throughout the period we have not observed any harmful effects on our employees or our customer’s employees” and that the author “cannot refer you to articles concerning poisoning cases with Aroclors, because after exhaustive search we have not found a single reported incident.” This statement was false. As described in detail above, Old Monsanto

was well aware of many incidents involving its own workers, and was also aware of studies by itself and others (such as the U.S. Navy) showing that PCBs were toxic.

141. Old Monsanto's continued aggressive production, marketing, and sale of PCB formulations, including to customers in Vermont, is remarkable particularly because, as Old Monsanto recognized, these PCB mixtures were neither necessary for many of the uses for which Old Monsanto marketed them, nor superior to alternative products.

142. Indeed, Old Monsanto's internal documents acknowledge that its PCB-containing dielectric fluids never offered any real advantage to non-PCB fluids. For example, a document concerning the company's product strategy for "askarel" dielectric fluids reports: "[T]he incidence of explosion with mineral oil was actually lower than with askarel! This in addition to the economic disadvantage of askarel leads to the embarrassing question of why bother to use askarel, and lends an ear to complaints from the workers who dislike the odor, irritating and toxic qualities of our material."

143. Likewise, many chemicals could perform the function of PCBs in various "open use" applications, such as adhesives or varnishes, such that there was never any need to introduce environmentally hazardous PCBs for these types of uses.

144. In short, Old Monsanto had a complete and comprehensive record of all PCB-related scientific research and general reportage during the relevant time period; indeed, an August 6, 1971 internal memorandum noted that the company "ha[s] probably the world's best reference file on the PCB situation". Nevertheless, the company failed to timely alert regulators and the public of the dangers of its PCBs, nor did it take adequate steps to stave off the impending environmental disaster, all to shield its sales, profits, and reputation — and to protect product lines that offered no concrete advantage over safer alternatives.

**VIII. OLD MONSANTO RUTHLESSLY ENCOURAGED THE USE OF PCBS IN
CONSTRUCTION THROUGH A CAMPAIGN OF DENIAL AND DECEPTION,
INCLUDING THE USE OF PCBS IN SCHOOLS**

145. Where PCBs and PCB-containing plasticizer products are used in building construction materials indoor air contamination from off-gassing is inevitable. And because PCBs continue to be released from building materials for decades and, once released, persist in the indoor environment for even longer, concentrations in indoor air can continue to increase almost indefinitely after contaminated materials are installed. These facts can make the indoor environment progressively more hazardous over time.

146. Relatedly, PCBs leach or migrate from their applications (such as caulking or adhesives) into porous surfaces and building materials with which those applications are in contact, such as masonry, wood, and concrete, as well as soils, sediments, and other resources outside of the buildings at which PCB-containing building materials were used.

147. As discussed above, PCBs are most dangerous to children and adolescents, who are more susceptible to PCBs' neurodevelopmental impacts than adults.

148. In combination, these properties render PCBs highly inappropriate and unreasonably dangerous for use in school building construction because it is inevitable that, as time passes, PCBs will leach from their applications and be emitted into the air and deposited onto surfaces in schools, where they will persist and accumulate indefinitely—resulting in long-term exposure of persons spending time in such buildings, including children and adolescents, who are the most vulnerable to the severe neurodevelopmental impacts of PCBs and are exposed to PCBs by breathing the air of schools contaminated by Monsanto's conduct.

149. Despite these dangers, Monsanto manufactured and promoted its commercial PCB products for use in construction. Old Monsanto sold its PCB mixtures for use in, and knew that

its PCBs were included in products that, when used as intended, were certain to directly result in contamination and property damage. These products include caulking and glazing compounds, sealants, adhesives, and other construction materials. Indeed, Monsanto developed a range of PCB-based plasticizer products specifically intended for use by the construction industry, promoting both their “non-toxic” and “non-volatile” profile. Monsanto made no effort to warn that these materials were highly inappropriate for use in school environments.

150. Old Monsanto advised customers to integrate their PCB mixtures into construction materials, such as caulk, sealants, adhesives, and other materials, despite knowing that this would directly introduce PCBs into surrounding air and other construction materials, and onto nearby interior surfaces.

151. Old Monsanto advised its customers this way despite the fact it knew that PCBs in ordinary use would volatilize. Old Monsanto conducted a series of studies in the 1940s, 1950s, and early 1960s concerning the volatilization of PCBs in ordinary use. These studies provided information to Old Monsanto above and beyond the tests and incidents described above demonstrating the toxicity of PCBs.

152. By this time, Old Monsanto already knew that its PCBs were highly stable, inert, and resistant to degradation, such that if PCBs were emitted via vaporization or volatilization from product applications, those PCBs would remain in circulation rather than break down.

153. In 1954, Old Monsanto conducted a study to measure the concentration of PCBs escaping into the air from PCB-containing styrene latex paint. The study showed PCBs escaped from the paint into the indoor air, and that in a heated room in particular the concentration of PCBs in the air would remain high for a long period of time. The 1954 study did not examine PCB vapor condensation or settlement in dust or otherwise study the fate of the PCBs released from the

paint. But because Monsanto knew its PCBs were extremely persistent and inert, Monsanto knew or should have known that the PCBs emitted from the paint ultimately settled on surfaces in the test room and did not simply disappear.

154. In a 1955 document, “Process for the Production of Aroclors, Pyranols, Etc. at the Anniston and at the Wm. G. Krummrich Plant,” Monsanto presented a detailed overview of the PCB production process. This process document included calculations of PCB volatility at a range of temperatures and presented a vapor pressure curve summarizing these data, confirming that at any temperature, Aroclor volatility is measurably positive. The process document also recounted the results of various tests (such as evaporation loss tests) that revealed PCB vapors of some magnitude are inevitably released from Monsanto’s PCB formulations, particularly but not only under heat.

155. The vaporization or volatilization data presented in the 1955 process document was generated in the 1940s and early 1950s.

156. Despite Monsanto’s clear knowledge that PCB vaporization or volatilization was an inevitable consequence of the ordinary use of its PCB products, Monsanto aggressively marketed those products for a wide range of uses expressly on the basis that volatilization would not occur.

157. For instance, in an April 1949 product brochure promoting the use of Aroclor plasticizers, Monsanto stated, “The Aroclors are non-volatile at normal temperatures.”

158. Similarly, in an advertisement published in trade publications such as *Chemical & Engineering News* in 1961, Monsanto promoted the Aroclor “Genie of a Thousand and One Engineering Feats,” promising that the product is “VIRTUALLY INDESTRUCTIBLE: resist breakdown from heat and mechanical stress, resist burning/rebuff electricity with their high

resistivity/refuse to oxidize, volatilize, hydrolyze or otherwise react with highly reactive chemicals.”

159. In other “Aroclor Genie” ads from the same time and published in the same and similar trade publications, Monsanto falsely stated that PCBs do not volatilize, and attributed Aroclors’ “*utter inertness*” to the “secret of the sorcery”: “They stubbornly refuse to volatilize... Use them *‘per se’* as lubricants, dielectrics, reaction media, heat transferants.”

160. Old Monsanto further promoted the use of its Aroclors in sealing and caulking compounds where they would be open to the air breathed by people in buildings. For instance, in a 1960 product pamphlet, Monsanto advised that “Aroclors and polybutenes can be blended with inorganic fillers to make excellent sealing and caulking compounds.” The same pamphlet falsely described Aroclors as “non-volatile” or “virtually non-volatile.”

161. Monsanto’s PCB sales for plasticizer applications (including for use in caulking, sealing, and glazing compounds and adhesives) ramped up as its marketing increased. In 1964, Old Monsanto committed substantial capital to expand its PCB manufacturing facilities in Illinois and Alabama specifically to increase its production of PCB plasticizer products.

162. As Old Monsanto general manager R.M. Morris wrote in an appropriations request, “The increased capacity is urgently needed to meet the rapidly expanding demand for the proprietary family of Aroclor Plasticizer and Functional Fluid products. . . . Monsanto enjoys a favorable position with the large diversified line of Aroclor products and formulations for a wide variety of applications. The objective of this project is to assure a continuous and dependable supply of products to satisfy the market needs.” These “market needs” were created in large part by all the marketing described above, *e.g.*, touting Old Monsanto’s PCB products as “non-volatile” substances suitable for use in caulk and sealants.

163. Monsanto's warnings and instructions to its customers prior to the 1970s generally advised of potential hazards in certain industrial working conditions, but not of hazards associated with PCBs introduced into commerce through manufactured products like caulk, varnishes, waxes, and lacquers.

164. Over the course of 1950s and 1960s, Old Monsanto repeatedly considered and rejected undertaking additional studies about PCBs and their potential to contaminate indoor air. It made these decisions because it knew that these additional studies were nearly certain to show that PCBs were dangerous.

165. Old Monsanto clearly understood that chemical manufacturers had a duty to undertake health and safety testing. For example, in October 1947, Dr. Kelly told the American Public Health Association that "many new products are being developed by manufacturers" and that manufacturers should undertake tests before marketing these chemicals to "make certain that no new chemical is used in a manner in which systemic toxicity or skin irritation might result either in workers making the product or in consumers."

166. Yet Dr. Kelly repeatedly declined to undertake such tests for PCBs. For example, in 1955—the same year that Monsanto acknowledged internally that Aroclors are inevitably released from their applications into indoor air—Dr. Kelly counseled against studying the problem any further, precisely because it was so unlikely any test would be able to demonstrate that Aroclors were safe in indoor settings. As Dr. Kelly wrote, when Aroclors are used in households they "can be used in almost any shape and form and we are never able to know how much of the concentration they are exposed to[.]" But instead of accepting his own conclusion from 1947 that Monsanto had a duty to "make certain" these chemicals were safe before selling them, Dr. Kelly went on to argue that the seemingly unlimited potential for chronic exposure to Aroclors made it

pointless to undertake additional toxicity testing: “[n]o amount of toxicity testing will obviate this . . . dilemma and therefore I do not believe any more testing would be justified.”

167. As public concern about PCBs continued to grow, Old Monsanto continued to refuse to undertake additional tests. In 1967, Dr. Kelly wrote an internal memo expressing his concern that public anxiety about air pollution might lead to inquiries about PCB contamination—which in turn might lead to demands for “extensive” toxicological investigations that he was eager to avoid. “We are very worried about what is liable to happen in the [United States] when the various technical and lay news media pick up the subject [of PCB contamination]. This is especially critical at this time because air pollution is getting a tremendous amount of publicity in the United States.” But Dr. Kelly went on to express his concern that customers might “ask us for some sort of data concerning the safety of these residues in humans,” and “[t]his obviously might be opening the door to an extensive and quite expensive toxicological/pharmacological investigation.”

168. In addition to its deliberate refusal to conduct testing of products it knew to be unsafe, Old Monsanto eventually began to direct its employees not to preserve PCB-related documents that might incriminate the company. In 1969, a management committee at Old Monsanto wrote a draft report acknowledging that PCBs were escaping into the environment on a massive scale, including from highway paints and landfills. In response, Monsanto’s legal department issued a directive to Monsanto employees to “call back all of those reports and burn them.” Similarly, in December 1971, Old Monsanto attorneys recommended that the company maintain a file of external publications dealing with PCBs, but concluded that “those which are not helpful in a defense of PCB litigation should not be preserved (except as part of the attorney’s work product in the defense of a case), since such documents would be subject to discovery.”

169. Old Monsanto also promised that its PCB plasticizer products would not significantly leach from materials in which PCB plasticizers were used, despite knowing or recklessly disregarding that this was untrue.

170. In a 1949 plasticizer product brochure, Old Monsanto touted the non-toxic nature of its plasticizer products: “Several Monsanto plasticizers such as E-15, B-16, and M-17, have been used for years in applications where they come in intimate contact with the human body, or with foodstuffs. They have proved themselves to be non-toxic and satisfactory for such applications. This record of freedom from ill effects in actual use has been checked by animal experimentation. New plasticizers, such as Santicizer 141, have been and are under active animal experimentation. The results show that Santicizer 141 can be considered non-toxic for the above uses.”

171. The same product brochure extols the “permanence” of Old Monsanto’s plasticizers.

172. As the document explains, “The permanence of a plasticizer is a combination of its volatility, oil and water resistance, resistance to migration and heat and light stability.” Concerning these properties, Old Monsanto promotes its PCB products’ “low losses,” “good resistance,” and “negligible weight loss,” by way of promoting plasticizer permanence.

173. Old Monsanto’s representations concerning PCB volatility, resistance to migration, and “permanence,” in the specific sense that the plasticizer components would not leave the application to which they are put, were at best misleading and deceptive because they were provided in the context of disclaiming any toxic effects of the products.

174. Old Monsanto continued making these and similar representations regarding PCB toxicity, volatility, permanence, resistance to migration, and related properties in connection with its plasticizer product marketing in the 1950s and 1960s.

175. Old Monsanto's campaign of denial and deception was wildly successful. PCB-containing products were used in a wide variety of applications in construction until the 1980s. Studies have documented that the resulting contamination is widespread. A study in the *Journal of Environmental Health Perspectives* found that 54% of the buildings it tested in the Boston area that were either constructed or renovated in the 1970s tested positive for PCBs, with concentrations ranging from 0.56–32,600 parts per million (PPM). Another study from the journal *Environmental Science & Technology* found that of the 1348 samples taken from buildings constructed between 1950 and 1978 in Switzerland, 48% were positive for PCBs, with concentrations ranging between 20–550,000 PPM. Another study of buildings renovated or constructed in San Francisco found that 88% of samples taken were positive for PCBs, with concentrations ranging between 1–220,000 PPM. These studies, among others reflect the reality that PCBs contamination in older buildings is as widespread as it is dangerous.

176. This problem is particularly acute for schools. The U.S. Department of Education estimates that roughly 65% of public schools nationwide were constructed between 1950 and 1984. The State believes a substantial portion of School Districts have buildings that were constructed in this period, and thus are very likely to have PCBs contamination. This is unsurprising—schools are constructed to last a long time, and rarely relocate. Children—who are most vulnerable to PCBs due to their severe neurodevelopmental effects—are in danger because of Monsanto's conduct, which has contaminated the air of Vermont schools with PCBs.

IX. VERMONT IS INVESTIGATING PCBs CONTAMINATION, WHICH IS WIDESPREAD AND SERIOUS IN VERMONT

177. The State of Vermont has conducted a series of investigations and collected sampling data to identify, characterize, and address risks to public health and State natural resources. The State's investigation and response are ongoing given the scope of the problem.

178. Because of Monsanto's conduct, vast quantities of PCBs or PCB-containing products were shipped into the State of Vermont. For example, and without limitation, one of Old Monsanto's Vermont customers alone—Jard Company, Inc.—received in excess of five million pounds of Aroclor products directly from Monsanto. As discussed in greater depth below, the former location of the Jard Company in Bennington is now a Superfund site. Monsanto shipped to many other customers within Vermont. Likewise, vast quantities of PCB-containing products made their way into Vermont through the stream of commerce.

179. As previously discussed, in conjunction with its significant sales into Vermont, Old Monsanto advised customers to dispose of liquid PCB wastes directly into sewers despite knowing that this would directly introduce PCBs into surface waters, and to vent PCB vapors to the atmosphere despite knowing that this would directly introduce PCBs into air, soils, and surface waters.

180. The natural resources of this State, including surface waters in the State, have been injured as a result of Old Monsanto's conduct, including in particular the release, discharge, and

emission of PCBs from Old Monsanto's commercial PCB mixtures and PCB-containing products in ordinary usage by Old Monsanto and downstream customers.

181. The quality of the State's water resources, sediments, fish and aquatic life, soils, air, wildlife, and other natural resources directly and significantly affects the quality of life of State residents.

182. Old Monsanto knew that PCBs were used in products certain to directly result in contamination of the environment, such as highway paints and other exterior applications.

183. Monsanto never advised the State or the public that Old Monsanto's PCB mixtures or products would inevitably leach, leak, off-gas, emit, discharge, and release PCBs from their ordinary and intended applications and from disposal sites, regardless of the nature of the application, to contaminate Vermont's waters, sediments, soils, lands, air, fish, and wildlife. Monsanto issued no public warning or instruction about such issues or the health and environmental hazards presented and, indeed, as alleged above, denied that such hazards exist in their communications with public entities and the public more generally.

184. To this day, Defendants continue to deny that Old Monsanto's PCB products pose a legitimate human health or environmental safety hazard that warrants action to remove PCBs from the environment.

185. Old Monsanto's PCB mixtures and PCB-containing products were used in countless applications within the State and leached, leaked, off-gassed, emitted, discharged, and released PCBs from their ordinary and intended applications to contaminate the State's waters, sediments, soils, air, fish, wildlife and other natural resources. Because Old Monsanto's PCBs are

environmentally persistent, they continue to circulate in the State's natural resources to this day, except where Plaintiff has caused their intentional removal.

186. The State has already taken significant and costly steps to address PCB contamination of surface water bodies and other natural resources, but widespread contamination continues to extensively damage the State's natural resources and poses current and future threats to human health and the well-being of the State's environment and economy.

187. Despite the State's considerable investment, PCBs contamination in Vermont is a serious problem. Like other states, Vermont periodically prepares water quality monitoring and assessment reports to satisfy its listing and reporting obligations under the Clean Water Act, sections 303(d) and 305(b) (33 U.S.C. §§ 1313(d), 1315(b)). All ten sections of Lake Champlain and the entire 7-mile reach of the Hoosic River is considered impaired for PCBs on Vermont's most current 303(d) Impaired Waters List. For example, in Lake Champlain, 165,715 acres are altered or impaired due to PCBs found in the fish tissue in Lake Champlain. The PCBs in Lake Champlain are predominantly from Aroclor 1242, one of Monsanto's major PCB formulations.

188. Vermont wildlife is also impaired due to PCB contamination caused by Monsanto. Fish contamination provides a useful example. Both the EPA and Vermont have a fish consumption limit of 12 parts-per-billion ("ppb") for PCBs. Anything above that level is considered elevated and unsafe for fish consumption. Because of this, Vermont has a fish consumption advisory for all of Lake Champlain and the Hoosic River. The public is advised not to eat any fish from the Hoosic River due to its particularly high levels of contamination and may eat only limited meals of Lake Trout, Smallmouth Bass, and Yellow Perch caught in Lake Champlain. This constitutes significant harm to Vermont residents, many of whom engage in fishing in Vermont, particularly in and around bucolic Lake Champlain, one of Vermont's premier

tourist and fishing destinations. For context, in 2021, the State issued nearly 120,000 fishing licenses, a significant number for a state with a population of just over 600,000.

189. The State has also identified PCB contamination at the following locations in Vermont, among others, and without limitation:

- a. Elizabeth Mine, in Orange County
- b. Jard Company, in Bennington County
- c. 157 South Champlain Street, in Chittenden County
- d. 16 Chaplin Ave, in Rutland County
- e. 34 Lakeside Avenue, in Chittenden County
- f. 44 Lakeside Avenue, in Chittenden County
- g. 50 Lakeside Avenue, in Chittenden County
- h. 48 Elm Street, in Windham County
- i. 56 Elm Street, in Windham County
- j. Adams Paper Mill, in Bennington County
- k. Alden Waterfront, in Chittenden County
- l. Alsup, in Windsor County
- m. Border Substation, in Orleans County
- n. Bryant Grinder, in Windsor County
- o. CPM Inc., in Caledonia County
- p. Carr and Sons (former), in Washington County
- q. Citizens Utilities—Grand Isle, in Grand Isle County
- r. Clark Estate, in Windsor County
- s. College of St. Joseph, in Rutland County

- t. Columbian Ave Apts., in Rutland County
- u. Country News Distributors—Thermal House, in Windsor County
- v. CV Properties, in Windsor County
- w. CVPS Arch St. Brattleboro Substation, in Windsor County
- x. CVPS Randolph Substation, in Orange County
- y. CVPC Rochester Substation, in Windsor County
- z. CVPS Salisbury Substation, in Addison County
- aa. CVPS Seymour St. Middlebury Substation, in Addison County
- bb. CVPS Silver Lake Substation, in Addison County
- cc. CVPS South Rutland Substation, in Rutland County
- dd. CVPS St. Albans Diesel Plant Substation, in Franklin County
- ee. CVPS Rutland City Gas Works, in Rutland County
- ff. Edgar May Health and Recreation Center, in Windsor County
- gg. Former Dump Site, in Windham County
- hh. Former Fonda Container Company, in Franklin County
- ii. Former St. Johnsbury Recreational Center, in Caledonia County
- jj. GMP Electrical Maintenance Facility, in Rutland County
- kk. GMP Manchester Substation, in Bennington County
- ll. GMP Plant #16, in Chittenden County
- mm. GMP White River Jct. Substation, in Windsor County
- nn. Graniteville Substation #35, in Washington County
- oo. Green Mountain Power, in Chittenden County
- pp. Green Mountain Power Plant #4, in Washington County

- qq. GW Plastics, in Orange County
- rr. Hardwick Electric, in Caledonia County
- ss. Harriman Substation, in Bennington County
- tt. Haviland Shade Roller Mill and Annex, in Addison County
- uu. Hess Salvage Yard Solar Site, in Lamoille County
- vv. Jeffersonville Granary, in Lamoille County
- ww. Jones and Lamson, in Windsor County
- xx. Malmquist Mills, in Orange County
- yy. Montpelier Granite Works, in Washington County
- zz. Moran Plant, in Chittenden County
- aaa. Morrisville Water and Light, in Lamoille County
- bbb. Morse Construction, in Chittenden County
- ccc. Nantanna Mills, in Washington County
- ddd. North Hero Drawbridge, in Grand Isle County
- eee. North Hyde Park Substation, in Lamoille County
- fff. OMYA Parcel 5B, in Rutland County
- ggg. Parcel 3 - Friends of Algiers, in Windham County
- hhh. Parcel 251001.00 Railroad Ave, in Windsor County
- iii. Plainfield Auto, in Washington County
- jjj. Planet Gas (formerly Western Ave. Neighbors), in Windham County
- kkk. Precision Valley Development, in Windsor County
- lll. Prescott Property, in Rutland County
- mmm. River Street Dump, in Franklin County

- nnn. Salt Shed—Montpelier, in Washington County
- ooo. Spruce Peak Substation, in Lamoille County
- ppp. St. Johnsbury Dump, in Caledonia County
- qqq. Tucel Industries, in Rutland County
- rrr. US Generating-Island Coop Facility, in Windham County
- sss. Valley Motor Sales, in Windsor County
- ttt. VEC, in Lamoille County
- uuu. VELCO Substation, in Franklin County
- vvv. Vermont Tissue, in Bennington County
- www. Vermont Tissue North, in Bennington County
- xxx. Village Substation, in Lamoille County
- yyy. Wallingford Mobil, in Rutland County
- zzz. Washington Electric, in Washington County
- aaaa. West Burke Quick Stop, in Caledonia County
- bbbb. Wetmore-Morse Substation #58, in Washington County
- cccc. 464 Canal Street, in Windham County
- dddd. Bennington Armory, in Bennington County

190. The many and varied nature of these sites is reflective of the pervasiveness of PCBs contamination in Vermont. Monsanto’s conduct—and its refusal to clean up the mess it created—has had a pervasive and negative effect on natural resources throughout the State.

191. PCB contamination also affects many Vermont schools. PCBs were used in school building materials and electrical equipment before 1980. Schools renovated or built before 1980 are more likely to have PCBs in their building materials, typically in caulk, paints, and fluorescent

light ballasts. PCBs can be released into indoor air from building materials that contain PCBs. Students and staff may be exposed to PCBs by: (a) breathing in dust or vapors that contain PCBs; (b) getting dust containing PCBs on their hands and then swallowing it while eating or drinking; and (c) skin contact with materials that contain PCBs.

192. As a result of the historical presence of PCBs in schools, in 2021, the Vermont legislature passed Act 74 requiring all schools built or renovated before 1980 to test their indoor air for PCBs. Testing in schools began in spring 2022 and it is expected that testing of schools will be completed by July 2025. The legislature transferred significant funds to the Environmental Contingency Fund and the Department of Environmental Conservation to support this testing effort.

193. The State of Vermont has established three different action levels for schools based on the PCB levels detected, depending on the age of the students. School action levels (“SAL”) are based on the amount of PCBs found in the indoor air at a school. Younger children tend to have more exposure to PCBs from their diet, so the levels for younger children are more stringent than those for older children and staff. The three school action levels are: (a) 30 nanograms per cubic meter (ng/m³) for Pre-K; (b) 60 ng/m³ for kindergarten to 6th grade; and (c) 100 ng/m³ for 7th grade to adult. In addition to SALs, the State has also established immediate action levels (“IAL”) that are three times higher than the SALs. Since these levels pose a greater exposure risk, no room at or above these levels will be able to be used. The three IALs are: (1) 90 nanograms per

cubic meter (ng/m³) for Pre-K; (2) 180 ng/m³ for kindergarten to 6th grade; and (3) 300 ng/m³ for 7th grade to adult.

194. The Vermont Department of Environmental Conservation (DEC) has the authority to require schools to make fixes that will lower exposure to PCBs, if levels are found at or above the SAL.

195. At present, and among others, the State is aware of contamination above the IALs and SALs in the following schools:

- a. Twin Valley Elementary School in Wilmington: 830 ng/m³ (above IAL)
- b. Cabot School in Cabot: 210 ng/m³ (above IAL)
- c. Brighton Elementary School Brighton: 200 ng/m³ (IAL)
- d. North Country Union High School in Newport: 250 ng/m³ (above SAL)
- e. Twinfield Union School in Marshfield: 230 ng/m³ (above SAL)
- f. Poultney Elementary School in Poultney: 160 ng/m³ (above SAL)
- g. Oak Grove School in Brattleboro: 120 ng/m³ (above SAL)
- h. Danville School in Danville: 110 ng/m³ (above SAL)
- i. Charlotte Central School in Charlotte: 110 ng/m³ (above SAL)
- j. Soar Learning Center in St. Albans: 110 ng/m³ (above SAL)
- k. Concord Graded/ Middle School in Concord: 57 ng/m³ (above SAL)
- l. Twin Valley Middle High School in Whitingham: 56.77 ng/m³ (SAL)
- m. Lunenburg/ Gilman Schools in Gilman: 56 ng/m³ (above SAL)

But this non-exclusive list does not represent the total of Vermont schools affected by PCBs contamination.

196. The State has spent millions on this testing. As results from this testing come in, the list of affected schools will grow—as will the cost of remediating those schools.

197. This cost should be borne by the multibillion-dollar companies which profited by the misconduct described in this Complaint, not by Vermont taxpayers.

198. Although PCBs are still widespread at sites and resources throughout Vermont, these PCBs can be remediated. The technology exists to remediate PCB contamination.

CAUSES OF ACTION

COUNT I

PUBLIC NUISANCE

199. Plaintiff realleges and reaffirms each and every allegation set forth in the preceding paragraphs as if fully restated in this cause of action.

200. Defendants or their predecessors designed, manufactured, marketed, and promoted PCBs and PCB-containing products in a manner that created or contributed to the creation of a public nuisance that is harmful to health.

201. Defendants or their predecessors intentionally designed, manufactured, distributed, marketed, and sold PCBs and PCB-containing products with the knowledge that they inevitably and foreseeably caused or created environmental contamination, indoor air contamination, property damage, and unreasonable health risks when used as intended.

202. Defendants or their predecessors knew that their PCBs and PCB-containing products would inevitably end up contaminating natural resources, including surface waters, fish, soils, sediments, and wildlife in Vermont when used as intended in general applications.

203. Defendants or their predecessors knew that their PCBs and PCB-containing products would inevitably end up contaminating indoor air and surfaces, concrete foundations, and other building components in school buildings when used as intended in construction materials applications.

204. Defendants' or their predecessors' conduct and the presence of PCB contamination in Vermont's natural resources annoys, injures, and endangers the comfort, repose, health, and safety of others, and interferes with and obstructs the public's safe use and comfortable enjoyment of such resources for recreational, tourism, commercial, and community purposes.

205. Defendants' or their predecessors' conduct and the presence of PCB contamination in Vermont schools annoys, injures, and endangers the comfort, repose, health, and safety of others, and interferes with and obstructs the public's safe use and comfortable enjoyment of such buildings for educational and community purposes.

206. The presence of PCB contamination in Vermont's natural resources and in Vermont schools also interferes with the State's, the public's, Vermont school students', Vermont school staff members', and Vermont state employees' interests in a safe and healthy environment.

207. Defendants' or their predecessors' conduct and the presence of PCB contamination in Vermont's natural resources and in Vermont schools is injurious to human health.

208. An ordinary person would be reasonably annoyed or disturbed by the presence of toxic PCBs in natural resources that endanger the health and safety of the public, and by the presence of toxic PCBs in Vermont schools that endanger the health and safety of students, school staff, state employees, and the public.

209. The seriousness of the human health risk far outweighs any social utility of Defendants' or their predecessors' conduct in designing, manufacturing, marketing, distributing,

and selling PCBs and PCB-containing products, including for use in construction materials, and concealing or misrepresenting the true dangers posed to human health as a result of ordinary use.

210. The rights, interests, and inconvenience to the State and the public, including students and staff, far outweighs the rights, interests, and inconvenience to Defendants or their predecessors, which profited heavily from the manufacture and sale of PCBs and PCB-containing products.

211. Defendants' or their predecessors' conduct causes and continues to cause harm to Plaintiff.

212. Plaintiff has suffered and will continue to suffer damage from Defendants' PCBs and PCB-containing products. This harm is severe and greater than Plaintiff should be required to bear without compensation.

213. Defendants or their predecessors knew with substantial certainty that the design, manufacture, marketing, distribution, and sale of PCBs and PCB-containing products, including for use in construction materials, causes the type of contamination and property damage now found in Vermont's natural resources and in Vermont schools. Defendants or their predecessors knew that their PCBs would contaminate and damage natural resources and buildings as a result of the ordinary and intended use of their products. In addition, Defendants or their predecessors knew PCBs and PCB-containing products are associated with serious illnesses in humans and that humans may be exposed to PCBs through consumption of fish and other foods contaminated with PCBs, as well as dermal contact and incidental ingestion or inhalation in proximity to natural resources contaminated with PCBs, and through inhalation of contaminated air and contact with contaminated surfaces in buildings constructed using PCBs or PCB-containing products.

214. In the alternative, Defendants or their predecessors should have known that their design, manufacture, marketing, distribution, and sale of PCBs and PCB-containing products would cause the above-described harms.

215. Defendants' or their predecessors' conduct in designing, manufacturing, distributing, selling, and promoting PCBs and PCB-containing products, including for use in construction materials, constitutes an intentional and unreasonable interference with a right common to the public, *i.e.*, the right to safely and comfortably use and enjoy Vermont's natural resources and Vermont schools for customary purposes, without obstruction or health hazard. This conduct has disrupted the comfort and convenience of the general public.

216. Defendants are under a continuing duty to act to correct and remediate the injuries their conduct, or that of their predecessors, has introduced, and to warn Plaintiff and the public about the human health risks posed by their PCBs and PCB-containing products, and each day on which they fail to do so constitutes a new injury to Plaintiff.

217. Plaintiff suffered harm of a kind different from that suffered by members of the general public, including incurrence of costs to investigate, monitor, analyze, and otherwise respond to PCB contamination in natural resources, and to investigate, monitor, analyze, and otherwise respond to PCB contamination in Vermont schools.

218. Defendants' or their predecessors' conduct has caused and/or threatened to cause injuries to Vermont natural resources, as well as Vermont schools, that are indivisible.

219. As a direct and proximate result of Defendants' or their predecessors' creation of a public nuisance, Plaintiff has suffered and continues to suffer monetary damages to be proven at trial.

COUNT II

PRIVATE NUISANCE

220. Plaintiff realleges and reaffirms each and every allegation set forth in the preceding paragraphs as if fully restated in this cause of action.

221. The State's natural resources and Vermont schools have been contaminated by PCBs as a direct and proximate result of the intentional and unreasonable, negligent and/or reckless conduct of Defendants or their predecessors, as alleged above.

222. Defendants or their predecessors intentionally designed, manufactured, distributed, marketed, and sold PCBs and PCB-containing products with the knowledge that they inevitably and foreseeably caused or created environmental contamination, indoor air contamination, property damage, and unreasonable health risks when used as intended.

223. Defendants or their predecessors knew that their PCBs and PCB-containing products would inevitably end up contaminating natural resources when used as intended in general applications, as well as indoor air and surfaces, concrete foundations, and other building components in school buildings when used as intended in construction materials applications.

224. As a direct and proximate result of Defendants' or their predecessors' conduct creating the above-described private nuisances, Plaintiff has suffered injuries, including to Vermont natural resources, as well as costs associated with investigating, monitoring, analyzing, and otherwise responding to PCB contamination in such resources and in Vermont schools.

225. Defendants' or their predecessors' conduct have substantially, intentionally, and unreasonably interfered with, obstructed, violated, and/or threatened, among other things, Plaintiff's interests in its natural resources, as well as Vermont schools. This harm far outweighs any social utility or benefits derived from such conduct.

226. Defendants' or their predecessors' conduct has caused and/or threatened to cause injuries to Plaintiff's natural resources, as well as Vermont schools, that are indivisible.

227. As a direct and proximate result of Defendants' or their predecessors' creation of a private nuisance, Plaintiff has suffered and continues to suffer monetary damages to be proven at trial.

COUNT III

STRICT LIABILITY – DEFECTIVE DESIGN

228. Plaintiff realleges and reaffirms each and every allegation set forth in the preceding paragraphs as if fully restated in this cause of action.

229. Defendants or their predecessors designed, manufactured, marketed, distributed, and sold PCBs and PCB-containing products.

230. As designers, manufacturers, marketers, distributors, and sellers of PCBs and PCB-containing products, Defendants or their predecessors owed a duty to all persons those PCBs and PCB-containing products might foreseeably harm, including Plaintiff and its citizens, not to market any product which is unreasonably dangerous for its intended and foreseeable uses.

231. Defendants or their predecessors represented, asserted, claimed, and warranted that their PCBs and PCB-containing products were safe for their intended and foreseeable uses.

232. When Defendants or their predecessors placed their PCBs and PCB-containing products into the stream of commerce, they were defective, unreasonably dangerous, and not reasonably suited for their intended, foreseeable, and ordinary storage, handling, and usage, including for the following reasons:

- a. Unintended releases of PCBs are commonplace;

- b. PCBs are released to the environment through the normal and foreseen use of PCBs and PCB-containing products;
- c. When PCBs are released into the environment, PCBs have a tendency to migrate to surface waterbodies, where they are ingested by fish and other aquatic life and adhere to sediments;
- d. When PCBs are released into the environment, PCBs persist over long periods of time because PCBs are resistant to biodegradation and bioremediation;
- e. PCBs bioaccumulate in humans and wildlife;
- f. Very low concentrations of PCBs can impair natural resources, including soils, sediments, fish and water;
- g. PCBs escape their applications, including construction materials, to contaminate indoor air and surfaces in buildings using PCB-containing construction materials;
- h. PCBs accumulate and persist over time in indoor spaces after volatilizing or off-gassing from construction materials used in buildings;
- i. PCBs pose risks to human health;
- j. Defendants or their predecessors had knowledge of these risks and failed to use reasonable care in the design of PCBs and PCB-containing products;
- k. PCBs pose greater dangers to natural resources and Vermont schools than would be expected by ordinary persons such as Plaintiff, end users, and the general public exercised reasonable care;
- l. The risks that PCBs pose to natural resources and Vermont schools outweigh the utility in incorporating PCBs into product formulations, including in paper

products, plastics, resins, adhesives, inks, varnishes, construction materials, and electrical equipment;

m. Safer alternatives to PCBs have existed and been available to Defendants or their predecessors at all times relevant to this litigation.

233. The above-described defects exceeded the knowledge of the ordinary person and by the exercise of reasonable care, Plaintiff would not be able to avoid the harm caused by PCBs.

234. Defendants' or their predecessors' PCBs and PCB-containing products were distributed and sold in the manner intended or reasonably foreseen by the Defendants or their predecessors, or as should have been reasonably foreseen by Defendants or their predecessors.

235. Defendants' or their predecessors' PCBs and PCB-containing products reached consumers and end users, as well as the environment and Vermont schools, in a condition substantially unchanged from that in which they left Defendants' or their predecessors' control.

236. Defendants' or their predecessors' PCBs and PCB-containing products failed to perform as safely as an ordinary consumer would expect when used in their intended and reasonably foreseeable manner.

237. As a direct and proximate result of Defendants' or their predecessors' conduct, Plaintiff's natural resources and Vermont schools, are contaminated with PCBs.

238. Plaintiff has incurred and will continue to incur costs and expenses to investigate, monitor, analyze, and otherwise respond to PCB contamination in natural resources, and to investigate, monitor, analyze, and otherwise respond to PCB contamination in Vermont schools, for which Defendants are strictly, jointly, and severally liable.

239. Defendants' or their predecessors' conduct has caused and/or threatened to cause injuries to Vermont natural resources, as well as Vermont schools, that are indivisible.

240. As a direct and proximate result of Defendants' or their predecessors' conduct, Plaintiff has suffered and continues to suffer monetary damages to be proven at trial.

COUNT IV

STRICT LIABILITY – FAILURE TO WARN

241. Plaintiff realleges and reaffirms each and every allegation set forth in the preceding paragraphs as if fully restated in this cause of action.

242. Defendants or their predecessors designed, manufactured, marketed, distributed, and sold PCBs and PCB-containing products.

243. As designers, manufacturers, marketers, distributors, and sellers of PCBs and PCB-containing products, Defendants or their predecessors owed a duty to all persons those PCBs and PCB-containing products might foreseeably harm, including Plaintiff and its citizens, to issue warnings and instructions adequate to prevent, avoid, or otherwise eliminate unreasonable risks of harm to person and property, including the environment, arising from the use, handling, and disposal of such products.

244. Defendants or their predecessors knew that their PCBs and PCB-containing products would be purchased, transported, stored, handled, used, and disposed of without notice of the hazards which PCBs pose to Plaintiff's natural resources and Vermont schools.

245. Defendants' or their predecessors' failure to warn of these hazards made their PCBs and PCB-containing products unreasonably dangerous.

246. At all times relevant to this litigation, Defendants or their predecessors have had actual and/or constructive knowledge of facts, including the following, which rendered their PCBs and PCB-containing products hazardous to Plaintiff's natural resources and Vermont schools:

- a. Unintended releases of PCBs are commonplace;

- b. PCBs are released to the environment through the normal and foreseen use of PCBs and PCB-containing products;
- c. When PCBs are released into the environment, PCBs have a tendency to migrate to surface waterbodies, where they are ingested by fish and other aquatic life and adhere to sediments;
- d. When PCBs are released into the environment, PCBs persist over long periods of time because PCBs are resistant to biodegradation and bioremediation;
- e. PCBs bioaccumulate in humans and wildlife;
- f. Very low concentrations of PCBs can impair natural resources, including soils, sediments, fish and water;
- g. PCBs escape their applications, including construction materials, to contaminate indoor air and surfaces in buildings using PCB-containing construction materials;
- h. PCBs accumulate and persist over time in indoor spaces after volatilizing or off-gassing from construction materials used in buildings;
- i. PCBs pose risks to human health.

247. The foregoing facts relating to the hazards that PCBs and PCB-containing products pose to Plaintiff's natural resources and Vermont schools are not the sort of facts that, at the relevant times, Plaintiff, Vermont schools, consumers, end users, or the general public could ordinarily discover or protect themselves against absent sufficient warnings and instructions.

248. Defendants or their predecessors breached their duty to warn by unreasonably failing to provide warnings concerning any of the facts alleged here to Plaintiff, Vermont schools, public officials, consumers, end users, and/or the general public.

249. Defendants or their predecessors further breached their duty to warn by unreasonably failing to provide adequate instructions concerning steps to be taken to prevent, avoid, or otherwise eliminate unreasonable risks of harm to person and property, including the environment, arising from the use, handling, and disposal of PCBs and PCB-containing products.

250. Defendants' or their predecessors' failure to warn proximately caused reasonably foreseeable injuries to Plaintiff.

251. Plaintiff and others would have heeded legally adequate warnings and instructions, had they been given, and could have taken steps to prevent the harms that have occurred. For example, procedures for safely handling, storing, using, disposing, cleaning up, or otherwise responding to known PCB contamination could have been developed and implemented by federal or State officials; pollution reporting requirements could have been developed and implemented much earlier than they were in fact; PCB-based product proposals could have been evaluated in advance to ensure environmental and human health concerns were addressed; and/or PCBs or PCB-containing products could have been prohibited or limited to specified applications or uses.

252. As a direct and proximate result of Defendants' or their predecessors' conduct, Plaintiff's natural resources and Vermont schools, are contaminated with PCBs.

253. Plaintiff has incurred and will continue to incur costs and expenses to investigate, monitor, analyze, and otherwise respond to PCB contamination in natural resources, and to investigate, monitor, analyze, and otherwise respond to PCB contamination in Vermont schools, for which Defendants are strictly, jointly, and severally liable.

254. Defendants' or their predecessors' conduct has caused and/or threatened to cause injuries to Vermont natural resources, as well as Vermont schools, that are indivisible.

255. As a direct and proximate result of Defendants' or their predecessors' conduct, Plaintiff has suffered and continues to suffer monetary damages to be proven at trial.

COUNT V

TRESPASS

256. Plaintiff realleges and reaffirms each and every allegation set forth in the preceding paragraphs as if fully restated in this cause of action.

257. Plaintiff has significant property interests in State natural resources.

258. Plaintiff's interests in natural resources include its public trust authority, its *parens patriae* interest, and its proprietary interest in State properties.

259. Plaintiff's interests in Vermont schools include its *parens patriae* interest by which it is authorized to protect public properties and resources.

260. Plaintiff never authorized the invasion of its natural resources and Vermont schools with PCBs.

261. Vermont schools did not authorize the invasion of their buildings or properties with PCBs.

262. Defendants or their predecessors knew, or in the exercise of reasonable care should have known, that PCBs are hazardous to natural resources, including surface waters, fish, wildlife, soils, sediments, and other resources, as well as Vermont schools.

263. Defendants' or their predecessors' conduct directly and proximately caused and continues to cause PCBs to intrude into or onto State natural resources and Vermont schools.

264. At the time of Defendants' or their predecessors' conduct, Defendants or their predecessors knew with substantial certainty that PCBs would reach into or onto State natural resources and Vermont schools.

265. Defendants' or their predecessors' knowledge was based on their knowledge of the properties of their PCBs and PCB-containing products, and their knowledge and experience regarding PCBs and PCB-containing products at their own facilities, where they manufactured and/or used PCBs, and other conduct alleged in this Complaint.

266. Despite this knowledge, Defendants or their predecessors manufactured, marketed, distributed, promoted, and sold PCBs and PCB-containing products with a profit motive in a way that has harmed Plaintiff.

267. As a direct and proximate result of Defendants' or their predecessors' conduct, Plaintiff's natural resources and Vermont schools are contaminated with PCBs.

268. Plaintiff has incurred and will continue to incur costs and expenses to investigate, monitor, analyze, and otherwise respond to PCB contamination in natural resources, and to investigate, monitor, analyze, and otherwise respond to PCB contamination in Vermont schools, for which Defendants are strictly, jointly, and severally liable.

269. Defendants' or their predecessors' conduct has caused and/or threatened to cause injuries to Vermont natural resources, as well as Vermont schools, that are indivisible.

270. As a direct and proximate result of Defendants' or their predecessors' conduct, Plaintiff has suffered and continues to suffer monetary damages to be proven at trial.

COUNT VI

NEGLIGENCE

271. Plaintiff realleges and reaffirms each and every allegation set forth in the preceding paragraphs as if fully restated in this cause of action.

272. Defendants or their predecessors designed, manufactured, marketed, distributed, and sold PCBs and PCB-containing products.

273. As designers, manufacturers, marketers, distributors, and sellers of PCBs and PCB-containing products, Defendants or their predecessors owed a duty to all persons those PCBs and PCB-containing products might foreseeably harm, including Plaintiff and its citizens, to exercise due care in the design, manufacture, promotion, marketing, sale, distribution, testing, labeling, use, warning, and instructing for use of PCBs and PCB-containing products.

274. Defendants or their predecessors had a duty and the financial and technical means to test PCBs and PCB-containing products, and to warn Plaintiff, Vermont schools, public officials, consumers, end users, and the general public, of the hazardous characteristics of PCBs and PCB-containing products.

275. Defendants or their predecessors had a duty to avoid contaminating the environment.

276. Defendants or their predecessors had a duty to avoid contaminating State natural resources.

277. Defendants or their predecessors had a duty to avoid contaminating Vermont schools.

278. Defendants or their predecessors represented and claimed that their PCBs and PCB-containing products did not require any different or special handling or precautions. Any warnings or instructions Defendants or their predecessors did provide were generic and insufficient to warn or instruct reasonable users of the dangers to the environment and to property and human health posed by these chemicals.

279. At all times relevant to this litigation, Defendants or their predecessors knew or should have known of the following environmental, property, and human health risks, among others:

- a. Unintended releases of PCBs are commonplace;
- b. PCBs are released to the environment through the normal and foreseen use of PCBs and PCB-containing products;
- c. When PCBs are released into the environment, PCBs have a tendency to migrate to surface waterbodies, where they are ingested by fish and other aquatic life and adhere to sediments;
- d. When PCBs are released into the environment, PCBs persist over long periods of time because PCBs are resistant to biodegradation and bioremediation;
- e. PCBs bioaccumulate in humans and wildlife;
- f. Very low concentrations of PCBs can impair natural resources, including soils, sediments, fish and water;
- g. PCBs escape their applications, including construction materials, to contaminate indoor air and surfaces in buildings using PCB-containing construction materials;
- h. PCBs accumulate and persist over time in indoor spaces after volatilizing or off-gassing from construction materials used in buildings;
- i. PCBs pose risks to human health.

280. The foregoing facts relating to the hazards which PCBs and PCB-containing products pose to State natural resources and Vermont schools, are not the sort of facts which Plaintiff, Vermont schools, consumers, end users, or the general public could ordinarily discover or protect themselves against absent sufficient warnings and instructions.

281. The PCBs and PCB-containing products that have contaminated State natural resources and Vermont schools were used in a normal and foreseeable manner.

282. Defendants or their predecessors have negligently breached their duties of care to Plaintiff, Vermont schools, consumers, end users, and the general public by, among other things:

- a. Promoting and defending PCBs and PCB-containing products while concealing the threat PCBs pose to natural resources, property (including buildings), and human health;
- b. Marketing, touting, and otherwise promoting the benefits of PCBs and PCB-containing products while concealing or not disclosing the truth about the environmental and health hazards posed by PCBs;
- c. Failing to eliminate or minimize the harmful impacts and risks posed by PCBs and PCB-containing products;
- d. Failing to curtail or reduce the applications or distribution of PCBs in light of known hazards and risks associated with such applications, including PCBs sold for use in construction materials;
- e. Failing to instruct Plaintiff, Vermont schools, consumers, end users, and the general public about the safe handling, use, and disposal of PCBs and PCB-containing products;
- f. Failing to warn and instruct Plaintiff, Vermont schools, consumers, end users, and the general public about the risks to natural resources, properties (including buildings), and human health posed by PCBs, and the necessary precautions and steps to prevent, avoid, or otherwise eliminate unreasonable risks of harm to person and property, including the environment, arising from the use, handling, and disposal of such products.

283. As a direct and proximate result of Defendants' or their predecessors' conduct, Plaintiff's natural resources and Vermont schools, are contaminated with PCBs.

284. Plaintiff has incurred and will continue to incur costs and expenses to investigate, monitor, analyze, and otherwise respond to PCB contamination in natural resources, and to investigate, monitor, analyze, and otherwise respond to PCB contamination in Vermont schools, for which Defendants are strictly, jointly, and severally liable.

285. Defendants' or their predecessors' conduct has caused and/or threatened to cause injuries to Vermont natural resources, as well as Vermont schools, that are indivisible.

286. As a direct and proximate result of Defendants' or their predecessors' conduct, Plaintiff has suffered and continues to suffer monetary damages to be proven at trial.

COUNT VII

Groundwater Protection Act, 10 V.S.A. § 1410

287. Plaintiff realleges and reaffirms each and every allegation set forth in the preceding paragraphs as if fully restated in this cause of action

288. The State of Vermont is a "person" as defined by 10 V.S.A. § 1410(b)(3).

289. Defendants have altered the character and/or quality of the groundwater in the State by engaging in the acts and omissions alleged in this First Complaint.

290. Defendants' alteration of the groundwater caused unreasonable harm by contaminating groundwater and/or other natural resources of the State.

291. PCBs have significantly and unreasonably impacted groundwater in the State by compromising groundwater character or quality.

292. The Act authorizes the State to seek equitable relief and/or damages for the unreasonable harm caused by PCB contamination to groundwater.

293. As a direct and proximate result of Defendants' acts and omissions, groundwater in the State was and is contaminated with PCBs. The State has incurred, is incurring, and will incur, investigation, remediation, cleanup, restoration, removal, treatment, and monitoring costs and expenses related to contamination of groundwater in the State, for which Defendants are strictly, jointly, and severally liable.

294. As a further direct and proximate result of Defendants' acts and omissions, the State has sustained and will sustain other substantial expenses and damages, for which Defendants are strictly, jointly, and severally liable.

295. Defendants' acts and omissions have caused and/or threatened to cause injuries to groundwater in the State that is indivisible.

PRAYER FOR RELIEF

The State of Vermont seeks judgment against all Defendants for:

A. Damages for injury to the State of Vermont's natural resources and Vermont schools, including the economic impact to the State and its residents from loss of use, value, benefits, ecological services, or other injuries resulting from the conduct alleged herein;

B. An award of past, present, and future costs to investigate, assess, analyze, monitor, remediate, restore, and/or replace natural resources or Vermont schools injured due to Defendants' conduct;

C. An award of the past, present, and future costs to abate the ongoing public nuisance and/or to fully respond to the contamination caused by Defendants' conduct;

D. In the alternative, declaratory judgment and injunctive relief requiring Defendants to abate and/or pay for abatement of the ongoing public nuisance, including all future abatement

techniques necessary to protect the public health such as demolition and removal of contaminated property and construction of replacement property;

E. Any other damages, including punitive or exemplary damages, as permitted by law;

F. A judicial determination that each Defendant is liable for future costs related to the investigation, remediation and removal of PCBs from Vermont natural resources and Vermont schools;

G. Relief for the PCBs contamination in Vermont schools, including the damages for injury described in paragraph A, the award of costs described in paragraph B, the award of costs described in paragraph C, the declaratory judgment and injunctive relief described in paragraph D, and the relief described in paragraphs E and F.

H. Litigation costs and attorneys' fees as permitted by law;

I. Pre-judgment and post-judgment interest on all monies awarded, as permitted by law; and

Such other and further relief as the Court deems just and proper.

JURY TRIAL DEMANDED

The State demands a trial by jury on all claims so triable.

Dated: June 16, 2023

STATE OF VERMONT
CHARITY R. CLARK
ATTORNEY GENERAL



By: _____
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