

117TH CONGRESS  
2D SESSION

# S. 4492

To provide for the National Academies of Sciences, Engineering, and Medicine to study and report on a Federal research agenda to advance the understanding of perfluoroalkyl and polyfluoroalkyl substances, and for other purposes.

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## IN THE SENATE OF THE UNITED STATES

JUNE 23, 2022

Mr. PETERS (for himself, Mr. MORAN, and Mrs. SHAHEEN) introduced the following bill; which was read twice and referred to the Committee on Commerce, Science, and Transportation

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## A BILL

To provide for the National Academies of Sciences, Engineering, and Medicine to study and report on a Federal research agenda to advance the understanding of perfluoroalkyl and polyfluoroalkyl substances, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*  
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the “Federal PFAS Re-  
5 search Evaluation Act”.

6 **SEC. 2. FINDINGS.**

7 Congress finds that—

1           (1) perfluoroalkyl and polyfluoroalkyl sub-  
2           stances are a group of manmade chemicals that have  
3           been used in a wide range of products since the  
4           1940s, including firefighting foam, carpeting, pack-  
5           aging, and cookware;

6           (2) there are more than 5,000 types of reg-  
7           istered perfluoroalkyl and polyfluoroalkyl substances;

8           (3) perfluoroalkyl and polyfluoroalkyl sub-  
9           stances are not currently regulated at the Federal  
10          level;

11          (4) perfluoroalkyl and polyfluoroalkyl sub-  
12          stances—

13               (A) have been detected in air, water, soil,  
14               food, biosolids, and more, where they persist for  
15               a long time;

16               (B) can accumulate and remain in the  
17               human body and in wildlife and other biota for  
18               a long time; and

19               (C) can lead to serious health effects, in-  
20               cluding cancer, low infant birthweight, liver and  
21               kidney issues, reproductive and developmental  
22               problems, and more;

23          (5) there remains much unknown about—

24               (A) the toxicity, human and environmental  
25               health effects, exposure pathways, and effective

1 removal, treatment, and destruction methods of  
2 perfluoroalkyl and polyfluoroalkyl substances;  
3 and

4 (B) safe alternatives to perfluoroalkyl and  
5 polyfluoroalkyl substances;

6 (6) Federal research efforts have been frag-  
7 mented at various Federal agencies and have strug-  
8 gled to effectively address the full scope of chal-  
9 lenges presented by perfluoroalkyl and  
10 polyfluoroalkyl substances;

11 (7) regulatory action and cleanup with respect  
12 to perfluoroalkyl and polyfluoroalkyl substances de-  
13 pend on—

14 (A) scientific analysis of toxicity data of  
15 perfluoroalkyl and polyfluoroalkyl substances;

16 (B) decisionmaking on how best to deal  
17 with the thousands of perfluoroalkyl and  
18 polyfluoroalkyl substances; and

19 (C) understanding the significance of the  
20 many exposure pathways for perfluoroalkyl and  
21 polyfluoroalkyl substances that exist; and

22 (8) a consensus study by the National Acad-  
23 emies would help inform decisions by the Federal  
24 Government, State governments, industry, and other

1 stakeholders on how to best address perfluoroalkyl  
2 and polyfluoroalkyl substances.

3 **SEC. 3. DEFINITIONS.**

4 In this Act:

5 (1) ADMINISTRATOR.—The term “Adminis-  
6 trator” means the Administrator of the Environ-  
7 mental Protection Agency.

8 (2) DIRECTOR.—The term “Director” means  
9 the Director of the National Science Foundation.

10 (3) NATIONAL ACADEMIES.—The term “Na-  
11 tional Academies” means the National Academies of  
12 Sciences, Engineering, and Medicine.

13 **SEC. 4. NATIONAL ACADEMIES REPORTS.**

14 (a) RESEARCH ASSESSMENTS OF PFAS EXPOSURE  
15 AND TOXICITY.—

16 (1) IN GENERAL.—Not later than 90 days after  
17 the date of enactment of this Act, the Director, in  
18 consultation with the Administrator, the Secretary  
19 of Defense, the Director of the National Institutes  
20 of Health, and the heads of other Federal agencies  
21 with expertise relevant to understanding exposure to  
22 and toxicity of perfluoroalkyl and polyfluoroalkyl  
23 substances, shall enter into an agreement with the  
24 National Academies—

1 (A) to conduct a 2-phase study in accord-  
2 ance with this subsection to identify research  
3 and development needed to advance human ex-  
4 posure estimations and toxicity and hazard esti-  
5 mations of individual perfluoroalkyl and  
6 polyfluoroalkyl substances or perfluoroalkyl and  
7 polyfluoroalkyl substances collectively; and

8 (B) to submit reports describing the re-  
9 sults of the studies in accordance with this sub-  
10 section.

11 (2) PHASE I STUDY AND REPORT ON HUMAN  
12 EXPOSURE ESTIMATION.—

13 (A) IN GENERAL.—The phase I study  
14 under paragraph (1) shall, at a minimum—

15 (i) consider lifecycle information on  
16 the manufacture, use, and disposal of  
17 products containing perfluoroalkyl and  
18 polyfluoroalkyl substances to identify po-  
19 tential human exposure sources and path-  
20 ways;

21 (ii) evaluate—

22 (I) the fate and transport of  
23 perfluoroalkyl and polyfluoroalkyl sub-  
24 stances; and

1 (II) the breakdown products of  
2 perfluoroalkyl and polyfluoroalkyl sub-  
3 stances, as related to human expo-  
4 sure;

5 (iii) if feasible, estimate human expo-  
6 sure to individual perfluoroalkyl and  
7 polyfluoroalkyl substances or perfluoroalkyl  
8 and polyfluoroalkyl substances collectively  
9 to determine relative source contributions  
10 for various exposure pathways (such as air,  
11 water, soil, or food);

12 (iv) determine which perfluoroalkyl  
13 and polyfluoroalkyl substances are most  
14 likely to contribute to human exposure;  
15 and

16 (v) identify research that is needed to  
17 advance exposure estimations to individual  
18 perfluoroalkyl and polyfluoroalkyl sub-  
19 stances or perfluoroalkyl and  
20 polyfluoroalkyl substances collectively.

21 (B) REPORT.—Not later than 1 year after  
22 the date on which the agreement described in  
23 paragraph (1) is finalized, the National Acad-  
24 emies shall—

1 (i) submit to Congress a report con-  
2 taining the findings and recommendations  
3 of the study described in subparagraph  
4 (A); and

5 (ii) make the report under clause (i)  
6 available on a publicly accessible website.

7 (3) PHASE II STUDY AND REPORT ON PFAS  
8 TOXICITY AND HAZARD ESTIMATION.—

9 (A) IN GENERAL.—The phase II study  
10 under paragraph (1) shall, at a minimum—

11 (i)(I) review animal and human tox-  
12 icity information on the perfluoroalkyl and  
13 polyfluoroalkyl substances most likely to  
14 contribute to human exposure, as identified  
15 in the phase I report under paragraph  
16 (2)(B)(i); and

17 (II) develop an approach for con-  
18 ducting a human health hazard assessment  
19 of the identified perfluoroalkyl and  
20 polyfluoroalkyl substances;

21 (ii) give consideration as to whether  
22 chemical category-based approaches for as-  
23 sessing hazards would be appropriate for  
24 evaluating perfluoroalkyl and  
25 polyfluoroalkyl substances as a group; and

1 (iii) identify research that is needed to  
2 advance toxicity and hazard assessments of  
3 individual perfluoroalkyl and  
4 polyfluoroalkyl substances or perfluoroalkyl  
5 and polyfluoroalkyl substances collectively.

6 (B) REPORT.—Not later than 1 year after  
7 the date on which the phase I report is sub-  
8 mitted to Congress under paragraph (2)(B)(i),  
9 the National Academies shall—

10 (i) submit to Congress a report con-  
11 taining the findings and recommendations  
12 of the study described in subparagraph  
13 (A); and

14 (ii) make the report under clause (i)  
15 available on a publicly accessible website.

16 (b) RESEARCH ASSESSMENTS OF MANAGEMENT AND  
17 TREATMENT ALTERNATIVES FOR PFAS CONTAMINATION  
18 IN THE ENVIRONMENT AND DEVELOPMENT OF SAFE AL-  
19 TERNATIVES.—

20 (1) IN GENERAL.—Not later than 90 days after  
21 the date of enactment of this Act, the Director and  
22 the Administrator, in consultation with the Sec-  
23 retary of Defense and the heads of other Federal  
24 agencies with expertise relevant to the development  
25 of alternatives to perfluoroalkyl and polyfluoroalkyl



1 substances and the management and treatment of  
2 perfluoroalkyl and polyfluoroalkyl substances, shall  
3 jointly enter into an agreement with the National  
4 Academies—

5 (A) to conduct a 2-phase study in accord-  
6 ance with this subsection to better under-  
7 stand—

8 (i) the research and development  
9 needed to advance the understanding of  
10 the extent and implications of environ-  
11 mental contamination by perfluoroalkyl  
12 and polyfluoroalkyl substances;

13 (ii) the best methods to manage and  
14 treat that contamination; and

15 (iii) the development of safe alter-  
16 natives to perfluoroalkyl and  
17 polyfluoroalkyl substances; and

18 (B) to submit reports describing the re-  
19 sults of the studies in accordance with this sub-  
20 section.

21 (2) PHASE I STUDY AND REPORT ON TREAT-  
22 MENT AND REMEDIATION.—

23 (A) IN GENERAL.—The phase I study  
24 under paragraph (1) shall, at a minimum—

1 (i) assess the best available strategies  
2 for treatment, site remediation, and safe  
3 disposal of perfluoroalkyl and  
4 polyfluoroalkyl substances; and

5 (ii) describe research gaps relating to  
6 the issues described in clause (i), including  
7 socioeconomic considerations and ways  
8 that the Federal Government can address  
9 the research needs.

10 (B) REPORT.—Not later than 18 months  
11 after the date on which the agreement described  
12 in paragraph (1) is finalized, the National  
13 Academies shall—

14 (i) submit to Congress a report con-  
15 taining the findings and recommendations  
16 of the study described in subparagraph  
17 (A); and

18 (ii) make the report under clause (i)  
19 available on a publicly accessible website.

20 (3) PHASE II STUDY AND REPORT ON ASSESS-  
21 MENT OF SAFE ALTERNATIVES FOR PFAS.—

22 (A) IN GENERAL.—The phase II study  
23 under paragraph (1) shall, at a minimum—

24 (i) examine the state of knowledge for  
25 alternatives to perfluoroalkyl and

1 polyfluoroalkyl substances in applications  
2 currently, as of the date of the study,  
3 using perfluoroalkyl and polyfluoroalkyl  
4 substances that contribute to significant  
5 human health or ecological exposures and  
6 potential risk; and

7 (ii) identify research needs to address  
8 the highest priorities for development of al-  
9 ternatives to perfluoroalkyl and  
10 polyfluoroalkyl substances.

11 (B) REPORT.—Not later than 3 years after  
12 the date on which the agreement described in  
13 paragraph (1) is finalized, the National Acad-  
14 emies shall—

15 (i) submit to Congress a report con-  
16 taining the findings and recommendations  
17 of the study described in subparagraph  
18 (A); and

19 (ii) make the report under clause (i)  
20 available on a publicly accessible website.

21 **SEC. 5. IMPLEMENTATION PLAN.**

22 (a) IN GENERAL.—Not later than 180 days after the  
23 date on which all reports from the National Academies  
24 under section 4 have been submitted to Congress, the Di-  
25 rector of the Office of Science and Technology Policy, in

1 coordination with the heads of all relevant Federal agen-  
2 cies, shall submit to Congress an implementation plan for  
3 increased collaboration and coordination of Federal re-  
4 search, development, and demonstration activities with re-  
5 spect to perfluoroalkyl and polyfluoroalkyl substances.

6 (b) REQUIREMENT.—In preparing the implementa-  
7 tion plan under subsection (a), the Director of the Office  
8 of Science and Technology Policy shall take into consider-  
9 ation the recommendations included in the reports sub-  
10 mitted to Congress under section 4.

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