

111<sup>TH</sup> CONGRESS  
2<sup>D</sup> SESSION

# S. 1660

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## AN ACT

To amend the Toxic Substances Control Act to reduce the emissions of formaldehyde from composite wood products, 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,*

1 **SECTION 1. SHORT TITLE.**

2 This Act may be cited as the “Formaldehyde Stand-  
3 ards for Composite Wood Products Act”.

4 **SEC. 2. FORMALDEHYDE STANDARDS FOR COMPOSITE**  
5 **WOOD PRODUCTS.**

6 (a) AMENDMENT.—The Toxic Substances Control  
7 Act (15 U.S.C. 2601 et seq.) is amended by adding at  
8 the end the following:

9 **“TITLE VI—FORMALDEHYDE**  
10 **STANDARDS FOR COMPOSITE**  
11 **WOOD PRODUCTS**

12 **“SEC. 601. FORMALDEHYDE STANDARDS.**

13 “(a) DEFINITIONS.—In this section:

14 “(1) FINISHED GOOD.—

15 “(A) IN GENERAL.—The term ‘finished  
16 good’ means any good or product (other than a  
17 panel) containing—

18 “(i) hardwood plywood;

19 “(ii) particleboard; or

20 “(iii) medium-density fiberboard.

21 “(B) EXCLUSIONS.—The term ‘finished  
22 good’ does not include—

23 “(i) any component part or other part  
24 used in the assembly of a finished good; or

25 “(ii) any finished good that has pre-  
26 viously been sold or supplied to an indi-

1           vidual or entity that purchased or acquired  
2           the finished good in good faith for pur-  
3           poses other than resale, such as—

4                           “(I) an antique; or

5                           “(II) secondhand furniture.

6           “(2) HARDBOARD.—The term ‘hardboard’ has  
7           such meaning as the Administrator shall establish,  
8           by regulation, pursuant to subsection (d).

9           “(3) HARDWOOD PLYWOOD.—

10                       “(A) IN GENERAL.—The term ‘hardwood  
11           plywood’ means a hardwood or decorative panel  
12           that is—

13                           “(i) intended for interior use; and

14                           “(ii) composed of (as determined  
15           under the standard numbered ANSI/  
16           HPVA HP-1-2009) an assembly of layers  
17           or plies of veneer, joined by an adhesive  
18           with—

19                           “(I) lumber core;

20                           “(II) particleboard core;

21                           “(III) medium-density fiberboard  
22           core;

23                           “(IV) hardboard core; or

24                           “(V) any other special core or  
25           special back material.

1           “(B) EXCLUSIONS.—The term ‘hardwood  
2 plywood’ does not include—

3           “(i) military-specified plywood;

4           “(ii) curved plywood; or

5           “(iii) any other product specified in—

6           “(I) the standard entitled ‘Vol-  
7 untary Product Standard—Structural  
8 Plywood’ and numbered PS 1-07; or

9           “(II) the standard entitled ‘Vol-  
10 untary Product Standard—Perform-  
11 ance Standard for Wood-Based Struc-  
12 tural-Use Panels’ and numbered PS  
13 2-04.

14           “(C) LAMINATED PRODUCTS.—

15           “(i) RULEMAKING.—

16           “(I) IN GENERAL.—The Admin-  
17 istrator shall conduct a rulemaking  
18 process pursuant to subsection (d)  
19 that uses all available and relevant in-  
20 formation from State authorities, in-  
21 dustry, and other available sources of  
22 such information, and analyzes that  
23 information to determine, at the dis-  
24 cretion of the Administrator, whether  
25 the definition of the term ‘hardwood

1 plywood' should exempt engineered ve-  
2 neer or any laminated product.

3 “(II) MODIFICATION.—The Ad-  
4 ministrator may modify any aspect of  
5 the definition contained in clause (ii)  
6 before including that definition in the  
7 regulations promulgated pursuant to  
8 subclause (I).

9 “(ii) LAMINATED PRODUCT.—The  
10 term ‘laminated product’ means a prod-  
11 uct—

12 “(I) in which a wood veneer is af-  
13 fixed to—

14 “(aa) a particleboard plat-  
15 form;

16 “(bb) a medium-density fi-  
17 berboard platform; or

18 “(cc) a veneer-core platform;  
19 and

20 “(II) that is—

21 “(aa) a component part;

22 “(bb) used in the construc-  
23 tion or assembly of a finished  
24 good; and

1                   “(cc) produced by the manu-  
2                   facturer or fabricator of the fin-  
3                   ished good in which the product  
4                   is incorporated.

5                   “(4) MANUFACTURED HOME.—The term ‘man-  
6                   ufactured home’ has the meaning given the term in  
7                   section 3280.2 of title 24, Code of Federal Regula-  
8                   tions (as in effect on the date of promulgation of  
9                   regulations pursuant to subsection (d)).

10                  “(5) MEDIUM-DENSITY FIBERBOARD.—The  
11                  term ‘medium-density fiberboard’ means a panel  
12                  composed of cellulosic fibers made by dry forming  
13                  and pressing a resinated fiber mat (as determined  
14                  under the standard numbered ANSI A208.2–2009).

15                  “(6) MODULAR HOME.—The term ‘modular  
16                  home’ means a home that is constructed in a factory  
17                  in 1 or more modules—

18                         “(A) each of which meet applicable State  
19                         and local building codes of the area in which  
20                         the home will be located; and

21                         “(B) that are transported to the home  
22                         building site, installed on foundations, and com-  
23                         pleted.

24                  “(7) NO-ADDED FORMALDEHYDE-BASED  
25                  RESIN.—

1           “(A) IN GENERAL.—(i) The term ‘no-  
2           added formaldehyde-based resin’ means a resin  
3           formulated with no added formaldehyde as part  
4           of the resin cross-linking structure in a com-  
5           posite wood product that meets the emission  
6           standards in subparagraph (C) as measured  
7           by—

8                   “(I) one test conducted pursuant to  
9                   test method ASTM E-1333-96 (2002) or,  
10                  subject to clause (ii), ASTM D-6007-02;  
11                  and

12                  “(II) 3 months of routine quality con-  
13                  trol tests pursuant to ASTM D-6007-02  
14                  or ASTM D-5582 or such other routine  
15                  quality control test methods as may be es-  
16                  tablished by the Administrator through  
17                  rulemaking.

18           “(ii) Test results obtained under clause  
19           (i)(I) or (II) by any test method other than  
20           ASTM E-1333-96 (2002) must include a  
21           showing of equivalence by means established by  
22           the Administrator through rulemaking.

23           “(B) INCLUSIONS.—The term ‘no-added  
24           formaldehyde-based resin’ may include any  
25           resin made from—

- 1                   “(i) soy;  
2                   “(ii) polyvinyl acetate; or  
3                   “(iii) methylene diisocyanate.

4                   “(C) EMISSION STANDARDS.—The fol-  
5                   lowing are the emission standards for composite  
6                   wood products made with no-added formalde-  
7                   hyde-based resins under this paragraph:

8                   “(i) No higher than 0.04 parts per  
9                   million of formaldehyde for 90 percent of  
10                  the 3 months of routine quality control  
11                  testing data required under subparagraph  
12                  (A)(ii).

13                  “(ii) No test result higher than 0.05  
14                  parts per million of formaldehyde for hard-  
15                  wood plywood and 0.06 parts per million  
16                  for particleboard, medium-density fiber-  
17                  board, and thin medium-density fiber-  
18                  board.

19                  “(8) PARTICLEBOARD.—

20                  “(A) IN GENERAL.—The term  
21                  ‘particleboard’ means a panel composed of cel-  
22                  lulosic material in the form of discrete particles  
23                  (as distinguished from fibers, flakes, or  
24                  strands) that are pressed together with resin



1 (as determined under the standard numbered  
2 ANSI A208.1–2009).

3 “(B) EXCLUSIONS.—The term  
4 ‘particleboard’ does not include any product  
5 specified in the standard entitled ‘Voluntary  
6 Product Standard—Performance Standard for  
7 Wood-Based Structural-Use Panels’ and num-  
8 bered PS 2–04.

9 “(9) RECREATIONAL VEHICLE.—The term ‘rec-  
10 reational vehicle’ has the meaning given the term in  
11 section 3282.8 of title 24, Code of Federal Regula-  
12 tions (as in effect on the date of promulgation of  
13 regulations pursuant to subsection (d)).

14 “(10) ULTRA LOW-EMITTING FORMALDEHYDE  
15 RESIN.—

16 “(A) IN GENERAL.—(i) The term ‘ultra  
17 low-emitting formaldehyde resin’ means a resin  
18 in a composite wood product that meets the  
19 emission standards in subparagraph (C) as  
20 measured by—

21 “(I) 2 quarterly tests conducted pur-  
22 suant to test method ASTM E–1333–96  
23 (2002) or, subject to clause (ii), ASTM D–  
24 6007–02; and

1 “(II) 6 months of routine quality con-  
2 trol tests pursuant to ASTM D-6007-02  
3 or ASTM D-5582 or such other routine  
4 quality control test methods as may be es-  
5 tablished by the Administrator through  
6 rulemaking.

7 “(ii) Test results obtained under clause  
8 (i)(I) or (II) by any test method other than  
9 ASTM E-1333-96 (2002) must include a  
10 showing of equivalence by means established by  
11 the Administrator through rulemaking.

12 “(B) INCLUSIONS.—The term ‘ultra low-  
13 emitting formaldehyde resin’ may include—

14 “(i) melamine-urea-formaldehyde  
15 resin;

16 “(ii) phenol formaldehyde resin; and

17 “(iii) resorcinol formaldehyde resin.

18 “(C) EMISSION STANDARDS.—

19 “(i) The Administrator may, pursuant  
20 to regulations issued under subsection (d),  
21 reduce the testing requirements for a man-  
22 ufacturer only if its product made with  
23 ultra low-emitting formaldehyde resin  
24 meets the following emission standards:

1                   “(I) For hardwood plywood, no  
2 higher than 0.05 parts per million of  
3 formaldehyde.

4                   “(II) For medium-density fiber-  
5 board—

6                   “(aa) no higher than 0.06  
7 parts per million of formaldehyde  
8 for 90 percent of 6 months of  
9 routine quality control testing  
10 data required under subpara-  
11 graph (A)(ii); and

12                   “(bb) no test result higher  
13 than 0.09 parts per million of  
14 formaldehyde.

15                   “(III) For particleboard—

16                   “(aa) no higher than 0.05  
17 parts per million of formaldehyde  
18 for 90 percent of 6 months of  
19 routine quality control testing  
20 data required under subpara-  
21 graph (A)(ii); and

22                   “(bb) no test result higher  
23 than 0.08 parts per million of  
24 formaldehyde.

1                   “(IV) For thin medium-density  
2 fiberboard—

3                   “(aa) no higher than 0.08  
4 parts per million of formaldehyde  
5 for 90 percent of 6 months of  
6 routine quality control testing  
7 data required under subpara-  
8 graph (A)(ii); and

9                   “(bb) no test result higher  
10 than 0.11 parts per million of  
11 formaldehyde.

12                   “(ii) The Administrator may not, pur-  
13 suant to regulations issued under sub-  
14 section (d), exempt a manufacturer from  
15 third party certification requirements un-  
16 less its product made with ultra low-emit-  
17 ting formaldehyde resin meets the fol-  
18 lowing emission standards:

19                   “(I) No higher than 0.04 parts  
20 per million of formaldehyde for 90  
21 percent of 6 months of routine quality  
22 control testing data required under  
23 subparagraph (A)(ii).

24                   “(II) No test result higher than  
25 0.05 parts per million of formaldehyde

1 for hardwood plywood and 0.06 parts  
2 per million for particleboard, medium-  
3 density fiberboard, and thin medium-  
4 density fiberboard.

5 “(b) REQUIREMENT.—

6 “(1) IN GENERAL.—Except as provided in an  
7 applicable sell-through regulation promulgated pur-  
8 suant to subsection (d), effective beginning on the  
9 date that is 180 days after the date of promulgation  
10 of those regulations, the emission standards de-  
11 scribed in paragraph (2), shall apply to hardwood  
12 plywood, medium-density fiberboard, and  
13 particleboard sold, supplied, offered for sale, or man-  
14 ufactured in the United States.

15 “(2) EMISSION STANDARDS.—The emission  
16 standards referred to in paragraph (1), based on  
17 test method ASTM E-1333-96 (2002), are as fol-  
18 lows:

19 “(A) For hardwood plywood with a veneer  
20 core, 0.05 parts per million of formaldehyde.

21 “(B) For hardwood plywood with a com-  
22 posite core—

23 “(i) 0.08 parts per million of form-  
24 aldehyde for any period after the effective

1 date described in paragraph (1) and before  
2 July 1, 2012; and

3 “(ii) 0.05 parts per million of form-  
4 aldehyde, effective on the later of the effec-  
5 tive date described in paragraph (1) or  
6 July 1, 2012.

7 “(C) For medium-density fiberboard—

8 “(i) 0.21 parts per million of form-  
9 aldehyde for any period after the effective  
10 date described in paragraph (1) and before  
11 July 1, 2011; and

12 “(ii) 0.11 parts per million of form-  
13 aldehyde, effective on the later of the effec-  
14 tive date described in paragraph (1) or  
15 July 1, 2011.

16 “(D) For thin medium-density fiber-  
17 board—

18 “(i) 0.21 parts per million of form-  
19 aldehyde for any period after the effective  
20 date described in paragraph (1) and before  
21 July 1, 2012; and

22 “(ii) 0.13 parts per million of form-  
23 aldehyde, effective on the later of the effec-  
24 tive date described in paragraph (1) or  
25 July 1, 2012.

1 “(E) For particleboard—

2 “(i) 0.18 parts per million of form-  
3 aldehyde for any period after the effective  
4 date described in paragraph (1) and before  
5 July 1, 2011; and

6 “(ii) 0.09 parts per million of form-  
7 aldehyde, effective on the later of the effec-  
8 tive date described in paragraph (1) or  
9 July 1, 2011.

10 “(3) COMPLIANCE WITH EMISSION STAND-  
11 ARDS.—(A) Compliance with the emission standards  
12 described in paragraph (2) shall be measured by—

13 “(i) quarterly tests shall be conducted pur-  
14 suant to test method ASTM E-1333-96 (2002)  
15 or, subject to subparagraph (B), ASTM D-  
16 6007-02; and

17 “(ii) quality control tests shall be con-  
18 ducted pursuant to ASTM D-6007-02, ASTM  
19 D-5582, or such other test methods as may be  
20 established by the Administrator through rule-  
21 making.

22 “(B) Test results obtained under subparagraph  
23 (A)(i) or (ii) by any test method other than ASTM  
24 E-1333-96 (2002) must include a showing of

1 equivalence by means established by the Adminis-  
2 trator through rulemaking.

3 “(C) Except where otherwise specified, the Ad-  
4 ministrator shall establish through rulemaking the  
5 number and frequency of tests required to dem-  
6 onstrate compliance with the emission standards.

7 “(4) APPLICABILITY.—The formaldehyde emis-  
8 sion standard referred to in paragraph (1) shall  
9 apply regardless of whether an applicable hardwood  
10 plywood, medium-density fiberboard, or  
11 particleboard is—

12 “(A) in the form of an unfinished panel; or

13 “(B) incorporated into a finished good.

14 “(c) EXEMPTIONS.—The formaldehyde emission  
15 standard referred to in subsection (b)(1) shall not apply  
16 to—

17 “(1) hardboard;

18 “(2) structural plywood, as specified in the  
19 standard entitled ‘Voluntary Product Standard—  
20 Structural Plywood’ and numbered PS 1–07;

21 “(3) structural panels, as specified in the stand-  
22 ard entitled ‘Voluntary Product Standard—Perform-  
23 ance Standard for Wood-Based Structural-Use Pan-  
24 els’ and numbered PS 2–04;



1           “(4) structural composite lumber, as specified  
2           in the standard entitled ‘Standard Specification for  
3           Evaluation of Structural Composite Lumber Prod-  
4           ucts’ and numbered ASTM D 5456–06;

5           “(5) oriented strand board;

6           “(6) glued laminated lumber, as specified in the  
7           standard entitled ‘Structural Glued Laminated Tim-  
8           ber’ and numbered ANSI A190.1–2002;

9           “(7) prefabricated wood I-joists, as specified in  
10          the standard entitled ‘Standard Specification for Es-  
11          tablishing and Monitoring Structural Capacities of  
12          Prefabricated Wood I-Joists’ and numbered ASTM  
13          D 5055–05;

14          “(8) finger-jointed lumber;

15          “(9) wood packaging (including pallets, crates,  
16          spools, and dunnage);

17          “(10) composite wood products used inside a  
18          new—

19                 “(A) vehicle (other than a recreational ve-  
20                 hicle) constructed entirely from new parts that  
21                 has never been—

22                         “(i) the subject of a retail sale; or

23                         “(ii) registered with the appropriate  
24                         State agency or authority responsible for

1           motor vehicles or with any foreign state,  
2           province, or country;

3           “(B) rail car;

4           “(C) boat;

5           “(D) aerospace craft; or

6           “(E) aircraft;

7           “(11) windows that contain composite wood  
8           products, if the window product contains less than  
9           5 percent by volume of hardwood plywood,  
10          particleboard, or medium-density fiberboard, com-  
11          bined, in relation to the total volume of the finished  
12          window product; or

13          “(12) exterior doors and garage doors that con-  
14          tain composite wood products, if—

15                 “(A) the doors are made from composite  
16                 wood products manufactured with no-added  
17                 formaldehyde-based resins or ultra low-emitting  
18                 formaldehyde resins; or

19                 “(B) the doors contain less than 3 percent  
20                 by volume of hardwood plywood, particleboard,  
21                 or medium-density fiberboard, combined, in re-  
22                 lation to the total volume of the finished exte-  
23                 rior door or garage door.

24          “(d) REGULATIONS.—

1           “(1) IN GENERAL.—Not later than January 1,  
2           2013, the Administrator shall promulgate regula-  
3           tions to implement the standards required under  
4           subsection (b) in a manner that ensures compliance  
5           with the emission standards described in subsection  
6           (b)(2).

7           “(2) INCLUSIONS.—The regulations promul-  
8           gated pursuant to paragraph (1) shall include provi-  
9           sions relating to—

10                   “(A) labeling;

11                   “(B) chain of custody requirements;

12                   “(C) sell-through provisions;

13                   “(D) ultra low-emitting formaldehyde res-  
14           ins;

15                   “(E) no-added formaldehyde-based resins;

16                   “(F) finished goods;

17                   “(G) third-party testing and certification;

18                   “(H) auditing and reporting of third-party  
19           certifiers;

20                   “(I) recordkeeping;

21                   “(J) enforcement;

22                   “(K) laminated products; and

23                   “(L) exceptions from the requirements of  
24           regulations promulgated pursuant to this sub-  
25           section for products and components containing

1           de minimis amounts of composite wood prod-  
2           ucts.

3           The Administrator shall not provide under subpara-  
4           graph (L) exceptions to the formaldehyde emission  
5           standard requirements in subsection (b).

6           “(3) SELL-THROUGH PROVISIONS.—

7                   “(A) IN GENERAL.—Sell-through provi-  
8                   sions established by the Administrator under  
9                   this subsection, with respect to composite wood  
10                  products and finished goods containing regu-  
11                  lated composite wood products (including rec-  
12                  reational vehicles, manufactured homes, and  
13                  modular homes), shall—

14                           “(i) be based on a designated date of  
15                           manufacture (which shall be no earlier  
16                           than the date 180 days following the pro-  
17                           mulgation of the regulations pursuant to  
18                           this subsection) of the composite wood  
19                           product or finished good, rather than date  
20                           of sale of the composite wood product or  
21                           finished good; and

22                           “(ii) provide that any inventory of  
23                           composite wood products or finished goods  
24                           containing regulated composite wood prod-  
25                           ucts, manufactured before the designated

1           date of manufacture of the composite wood  
2           products or finished goods, shall not be  
3           subject to the formaldehyde emission  
4           standard requirements under subsection  
5           (b)(1).

6           “(B) IMPLEMENTING REGULATIONS.—The  
7           regulations promulgated under this subsection  
8           shall—

9                   “(i) prohibit the stockpiling of inven-  
10                   tory to be sold after the designated date of  
11                   manufacture; and

12                   “(ii) not require any labeling or test-  
13                   ing of composite wood products or finished  
14                   goods containing regulated composite wood  
15                   products manufactured before the des-  
16                   ignated date of manufacture.

17           “(C) DEFINITION.—For purposes of this  
18           paragraph, the term ‘stockpiling’ means manu-  
19           facturing or purchasing a composite wood prod-  
20           uct or finished good containing a regulated  
21           composite wood product between the date of en-  
22           actment of the Formaldehyde Standards for  
23           Composite Wood Products Act and the date  
24           180 days following the promulgation of the reg-  
25           ulations pursuant to this subsection at a rate

1           which is significantly greater (as determined by  
2           the Administrator) than the rate at which such  
3           product or good was manufactured or pur-  
4           chased during a base period (as determined by  
5           the Administrator) ending before the date of  
6           enactment of the Formaldehyde Standards for  
7           Composite Wood Products Act.

8           “(4) IMPORT REGULATIONS.—Not later than  
9           July 1, 2013, the Administrator, in coordination  
10          with the Commissioner of Customs and Border Pro-  
11          tection and other appropriate Federal departments  
12          and agencies, shall revise regulations promulgated  
13          pursuant to section 13 as the Administrator deter-  
14          mines to be necessary to ensure compliance with this  
15          section.

16          “(5) SUCCESSOR STANDARDS AND TEST METH-  
17          ODS.—The Administrator may, after public notice  
18          and opportunity for comment, substitute an industry  
19          standard or test method referenced in this section  
20          with its successor version.

21          “(e) PROHIBITED ACTS.—An individual or entity  
22          that violates any requirement under this section (including  
23          any regulation promulgated pursuant to subsection (d))  
24          shall be considered to have committed a prohibited act  
25          under section 15.”.

1 (b) CONFORMING AMENDMENT.—The table of con-  
2 tents of the Toxic Substances Control Act (15 U.S.C. prec.  
3 2601) is amended by adding at the end the following:

“TITLE VI—FORMALDEHYDE STANDARDS FOR COMPOSITE WOOD  
PRODUCTS

“Sec. 601. Formaldehyde standards.”.

4 **SEC. 3. REPORTS TO CONGRESS.**

5 Not later than one year after the date of enactment  
6 of this Act, and annually thereafter through December 31,  
7 2014, the Administrator of the Environmental Protection  
8 Agency shall submit to the Committee on Environment  
9 and Public Works of the Senate and the Committee on  
10 Energy and Commerce of the House of Representatives  
11 a report describing, with respect to the preceding year—

12 (1) the status of the measures carried out or  
13 planned to be carried out pursuant to title VI of the  
14 Toxic Substances Control Act; and

15 (2) the extent to which relevant industries have  
16 achieved compliance with the requirements under  
17 that title.

18 **SEC. 4. MODIFICATION OF REGULATION.**

19 Not later than 180 days after the date of promulga-  
20 tion of regulations pursuant to section 601(d) of the Toxic  
21 Substances Control Act (as amended by section 2), the  
22 Secretary of Housing and Urban Development shall up-  
23 date the regulation contained in section 3280.308 of title

1 24, Code of Federal Regulations (as in effect on the date  
2 of enactment of this Act), to ensure that the regulation  
3 reflects the standards established by section 601 of the  
4 Toxic Substances Control Act.

Passed the Senate June 14, 2010.

Attest:

*Secretary.*





117<sup>TH</sup> CONGRESS  
2<sup>D</sup> SESSION

**S. 1660**

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**AN ACT**

To amend the Toxic Substances Control Act to reduce the emissions of formaldehyde from composite wood products, and for other purposes.