

66387.6 Testing Methodology and Maximum Concentrations of Regulated Constituents and Copper for Brake Friction Materials

(a)

The manufacturer of brake friction material offered for sale in California shall ensure that its brake friction materials sold or offered for sale in California are tested: (1) By a laboratory accredited in accordance with California Code of Regulations, title 22, section 66387.5; and (2) Using the testing protocol SAE J 2975:DEC2013 or an alternative testing method approved under subsection (I) of this section.

(1)

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(2)

Using the testing protocol SAE J 2975:DEC2013 or an alternative testing method approved under subsection (I) of this section.

(b)

Manufacturers of brake friction material shall ensure that brake friction material is tested for each of the following: (1) Asbestiform fibers; (2) Cadmium and its compounds; (3) Chromium (VI)-salts; (A) The total chromium in a brake friction material may be tested and assumed to be entirely composed of chromium

(VI)-salts. Therefore if the amount of total chromium is within the chromium (VI)-salts allowable range, speciated Chromium (VI)-salts testing is not required. (4) Copper and its compounds; (5) Lead and its compounds; and (6) Mercury and its compounds.

(1)

Asbestiform fibers;

(2)

Cadmium and its compounds;

(3)

Chromium (VI)-salts; (A) The total chromium in a brake friction material may be tested and assumed to be entirely composed of chromium (VI)-salts. Therefore if the amount of total chromium is within the chromium (VI)-salts allowable range, speciated Chromium (VI)-salts testing is not required.

(A)

The total chromium in a brake friction material may be tested and assumed to be entirely composed of chromium (VI)-salts. Therefore if the amount of total chromium is within the chromium (VI)-salts allowable range, speciated Chromium (VI)-salts testing is not required.

(4)

Copper and its compounds;

(5)

Lead and its compounds; and

(6)

Mercury and its compounds.

(c)

Who is responsible for the accuracy of laboratory testing results? The analytical laboratory is responsible for the accuracy of the test results reported to the

testing certification agency. The manufacturer of brake friction material is responsible to confirm the concentrations of regulated constituents and copper reported correspond to the concentrations known to be in their brake friction material formulations prior to the analytical laboratory reporting these testing results to the testing certification agency.

(d)

What are the maximum concentrations for the regulated constituents and copper in brake friction materials that must be certified? To be used for certification, the cumulative average of all testing data must show that the brake friction material does not exceed the following concentrations: (1) 0.01 percent by weight for cadmium and its compounds; (2) 0.1 percent by weight for each of these individual constituents: (A) Asbestiform fibers. (B) Chromium(VI)-salts. (C) Lead and its compounds. (D) Mercury and its compounds. (3) 5.0 percent by weight of copper and its compounds after January 1, 2021; and (4) 0.5 percent by weight of copper and its compounds after January 1, 2025.

(1)

0.01 percent by weight for cadmium and its compounds;

(2)

0.1 percent by weight for each of these individual constituents: (A) Asbestiform fibers. (B) Chromium(VI)-salts. (C) Lead and its compounds. (D) Mercury and its compounds.

(A)

Asbestiform fibers.

(B)

Chromium(VI)-salts.

(C)

Lead and its compounds.

(D)

Mercury and its compounds.

(3)

5.0 percent by weight of copper and its compounds after January 1, 2021; and

(4)

0.5 percent by weight of copper and its compounds after January 1, 2025.

(e)

How many times does each friction material need to be tested? All testing for the regulated constituents and copper must be done at least in triplicate. (1) Due to the margin of error in the test method, additional testing may be required to demonstrate that the brake friction material does not exceed the concentrations listed for each of the regulated constituents and copper in Health and Safety Code sections 25250.51, 25250.52, and 25250.53. Cumulative average of all testing results conducted on a specific brake friction material must meet the applicable requirements of the subsection (d) of this section. (A) For example, if a pad contains 4.9 percent copper, the first round of testing results could come back showing the average testing result is greater than 5.0 percent copper by weight. Consequently, these results would not be suitable for demonstrating compliance and the brake friction material would need to be retested in accordance with SAE J 2975:DEC2013. (2) If an approved alternative testing method or protocol is used, all testing must be done in accordance with the alternative testing method and must be done at least in triplicate.

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Due to the margin of error in the test method, additional testing may be required to demonstrate that the brake friction material does not exceed the concentrations listed for each of the regulated constituents and copper in Health and Safety Code sections

25250.51, 25250.52, and 25250.53. Cumulative average of all testing results conducted on a specific brake friction material must meet the applicable requirements of the subsection (d) of this section. (A) For example, if a pad contains 4.9 percent copper, the first round of testing results could come back showing the average testing result is greater than 5.0 percent copper by weight. Consequently, these results would not be suitable for demonstrating compliance and the brake friction material would need to be retested in accordance with SAE J 2975:DEC2013.

(A)

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Consequently, these results would not be suitable for demonstrating compliance and the brake friction material would need to be retested in accordance with SAE J 2975:DEC2013.

(2)

If an approved alternative testing method or protocol is used, all testing must be done in accordance with the alternative testing method and must be done at least in triplicate.

(f)

How must laboratory testing results be reported to the Department? No results are reported to the Department.

(g)

What information must be reported to the testing certification agency? The analytical laboratories shall transmit all laboratory testing results for a brake friction material directly to a testing certification agency. (1) Test results determined to be laboratory error as specified in section 66387.6 subsection (h) do not have to be reported to the testing certification agency. All test results derived from a single set of friction material samples must be reported to the testing certification agency at the same time on a single report. (A) Any reporting which

does not meet the specifications of section 66387.6, subsection (g)(1) would be considered a modification to the testing method in subsection (a)(2) of this section and require approval under section 66387.6, subsection (k) prior to using it for self-certification. (2) Testing reports transmitted from the laboratory to the testing certification agency must include the minimum information specified in SAE J 2975:DEC2013. (A) If an alternate method of testing approved under subsection (l) of this section is used to perform testing and that alternate method specifies the minimum reporting information, then test reports transmitted from the laboratory to the testing certification agency shall include the minimum information specified in the alternate method of testing utilized. (3) In addition to reporting the cumulative average for each regulated constituent and copper listed in this subsection, the testing laboratory shall perform a comparison between the cumulative average and the concentrations listed under this subsection and specify the environmental compliance level indicated by the report. This comparison shall report whether the cumulative average concentration does not exceed the following concentrations:(B) 0.01 percent by weight for cadmium and its compounds; (C) 0.1 percent by weight for chromium (VI)-salts, lead and its compounds, mercury and its compounds, and asbestiform fibers; (D) 5.0 percent by weight of copper on and after January 1, 2021, and (E) 0.5 percent by weight of copper on and after January 1, 2025.

(1)

Test results determined to be laboratory error as specified in section 66387.6 subsection (h) do not have to be reported to the testing certification agency. All test results derived from a single set of friction material samples must be reported to the testing certification agency at the same time on a single report. (A) Any reporting which does not meet the specifications of section 66387.6, subsection (g)(1) would be considered a

modification to the testing method in subsection (a)(2) of this section and require approval under section 66387.6, subsection (k) prior to using it for self-certification.

(A)

Any reporting which does not meet the specifications of section 66387.6, subsection (g)(1) would be considered a modification to the testing method in subsection (a)(2) of this section and require approval under section 66387.6, subsection (k) prior to using it for self-certification.

(2)

Testing reports transmitted from the laboratory to the testing certification agency must include the minimum information specified in SAE J 2975:DEC2013. (A) If an alternate method of testing approved under subsection (l) of this section is used to perform testing and that alternate method specifies the minimum reporting information, then test reports transmitted from the laboratory to the testing certification agency shall include the minimum information specified in the alternate method of testing utilized.

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(3)

In addition to reporting the cumulative average for each regulated constituent and copper listed in this subsection, the testing laboratory shall perform a comparison between the cumulative average and the concentrations listed under this subsection and specify the environmental compliance level indicated by the report. This comparison shall report whether the cumulative average concentration does not exceed the following concentrations:(B) 0.01 percent by weight for cadmium and its compounds; (C)

0.1 percent by weight for chromium (VI)-salts, lead and its compounds, mercury and its compounds, and asbestiform fibers; (D) 5.0 percent by weight of copper on and after January 1, 2021, and (E) 0.5 percent by weight of copper on and after January 1, 2025.

(B)

0.01 percent by weight for cadmium and its compounds;

(C)

0.1 percent by weight for chromium (VI)-salts, lead and its compounds, mercury and its compounds, and asbestiform fibers;

(D)

5.0 percent by weight of copper on and after January 1, 2021, and

(E)

0.5 percent by weight of copper on and after January 1, 2025.

(h)

What happens if laboratory error occurs? If laboratory error is suspected, the laboratory may, at its discretion and in accordance with its standard operating procedures, choose to retest the brake friction material. The results from the testing in which the error occurred do not need to be included in the testing results transmitted to the testing certification agency. (1) Laboratory error may include incorrect samples being initially submitted to the laboratory for testing. (2) If the laboratory previously submitted results to a testing certification agency and later determines any of those results were laboratory error, then the laboratory shall inform the testing certification agency within four (4) calendar days of the determination that the test results were laboratory error. The testing certification agency shall withdraw registration of specific unique identification codes until such time as new testing without laboratory error is properly provided to the testing certification agency which warrants the unique identification codes being properly

registered.

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(2)

If the laboratory previously submitted results to a testing certification agency and later determines any of those results were laboratory error, then the laboratory shall inform the testing certification agency within four (4) calendar days of the determination that the test results were laboratory error. The testing certification agency shall withdraw registration of specific unique identification codes until such time as new testing without laboratory error is properly provided to the testing certification agency which warrants the unique identification codes being properly registered.

(i)

How long must a manufacturer of brake friction material retain copies of laboratory testing results used for self-certification? A manufacturer of brake friction materials shall maintain copies of laboratory testing results for a period of at least ten (10) years after the date of self-certification.

(j)

May a manufacturer of brake friction material self-certify compliance using testing results derived using an alternative testing method? A manufacturer of brake friction material may use an alternative testing method if the alternative testing method is approved by the Department under subsection (k) of this section, in advance of use for self-certification. Once an alternative testing method has been approved by the Department, any manufacturer of brake friction material may use the approved alternative testing method for certification. The Department shall only approve an alternative testing method: (1) When an alternative testing

method is proposed by at least one of the following: (A) Manufacturer of brake friction material; or (B) Testing certification agency approved by the Department under California Code of Regulations, title 22, section 66387.4 subsection (c); or (C) A testing laboratory used by a testing certification agency approved by the Department under California Code of Regulations, title 22, section 66387.4 subsection (c). (2) When the entity proposing an alternative testing method has submitted information to the Department in accordance with subsection (k); (3) When the alternative testing method does not involve alterations to the sample preparation method outlined in SAE J 2975:DEC2013 section 4.1, and (4) When the proposed alternative testing method is publicly available.

(1)

When an alternative testing method is proposed by at least one of the following: (A) Manufacturer of brake friction material; or (B) Testing certification agency approved by the Department under California Code of Regulations, title 22, section 66387.4 subsection (c); or (C) A testing laboratory used by a testing certification agency approved by the Department under California Code of Regulations, title 22, section 66387.4 subsection (c).

(A)

Manufacturer of brake friction material; or

(B)

Testing certification agency approved by the Department under California Code of Regulations, title 22, section 66387.4 subsection (c); or

(C)

A testing laboratory used by a testing certification agency approved by the Department under California Code of Regulations, title 22, section 66387.4 subsection (c).

(2)

When the entity proposing an alternative testing method has submitted information to the Department in accordance with subsection (k);

(3)

When the alternative testing method does not involve alterations to the sample preparation method outlined in SAE J 2975:DEC2013 section 4.1, and

(4)

When the proposed alternative testing method is publicly available.

(k)

What is the process for requesting the Department to approve an alternative testing method for chemical analysis testing or chemical analysis sampling processing? An entity may submit a request for approval on an alternative testing method in writing or electronically. The request must include the following information: (1) Contact for: (A) The entity requesting the approval; and (B) The manufacturer(s) of brake friction materials whose products were used to gather evidence proving the alternate proposed method is equivalent or better than SAE J 2975:DEC2013; and (C) The laboratory(ies) which performed the testing; and (D) The laboratory accreditation body(ies) which accredited the lab under the California Code of Regulations, title 22, section 66387.5 subsection (a). (2) A copy of the proposed alternative testing method (3) A copy of the Standard Operating Procedure for the alternative testing method (A) If the alternative testing method is a standard or reference method, a demonstration of capability package must be submitted as outlined in the NELAC Institute Standard, Module 4: Quality Systems for Chemical Testing. (B) If the testing method is a non-standard or reference method, then a validation package must be submitted as outlined in the NELAC Institute Standard, Module 4: Quality Systems for Chemical Testing. (4) A certificate signed by the Laboratory Director that the proposed alternative testing method(s):

(A) Is equivalent or better than SAE J 2975:DEC2013; and (B) Is suitable for analyzing the components identified in Health and Safety Code sections 25250.51, 25250.52, and 25250.53. (5) A copy of the data used by the Laboratory Director to determine that the proposed alternative testing method is equivalent or better than SAE J 2975:DEC2013. (6) A manufacturer of brake friction material, the testing certification agency, or the testing laboratory may submit a request for approval of an alternate testing method by either of the following methods:(A) For an electronic submittal, a person shall send the request to the Department via electronic mail (brakepad@dtsc.ca.gov) on the Department's website at <http://www.dtsc.ca.gov> with the words "Attention: California Brake Pad Alternative Testing Method Request" displayed in the subject line of the electronic mail; or (B) For a written submittal, a person shall send the request to the Department via certified mail, return receipt requested, at the following address: Department of Toxic Substances Control, Safer Products and Workplaces Program, P.O. Box 806, Sacramento, CA 95812-0806, with the words "Attention: California Brake Pad Alternative Testing Method Request" prominently displayed on the front of the envelope.

(1)

Contact for: (A) The entity requesting the approval; and (B) The manufacturer(s) of brake friction materials whose products were used to gather evidence proving the alternate proposed method is equivalent or better than SAE J 2975:DEC2013; and (C) The laboratory(ies) which performed the testing; and (D) The laboratory accreditation body(ies) which accredited the lab under the California Code of Regulations, title 22, section 66387.5 subsection (a).

(A)

The entity requesting the approval; and

(B)

The manufacturer(s) of brake friction materials whose products were used to gather evidence proving the alternate proposed method is equivalent or better than SAE J 2975:DEC2013; and

(C)

The laboratory(ies) which performed the testing; and

(D)

The laboratory accreditation body(ies) which accredited the lab under the California Code of Regulations, title 22, section 66387.5 subsection (a).

(2)

A copy of the proposed alternative testing method

(3)

A copy of the Standard Operating Procedure for the alternative testing method (A) If the alternative testing method is a standard or reference method, a demonstration of capability package must be submitted as outlined in the NELAC Institute Standard, Module 4: Quality Systems for Chemical Testing. (B) If the testing method is a non-standard or reference method, then a validation package must be submitted as outlined in the NELAC Institute Standard, Module 4: Quality Systems for Chemical Testing.

(A)

If the alternative testing method is a standard or reference method, a demonstration of capability package must be submitted as outlined in the NELAC Institute Standard, Module 4: Quality Systems for Chemical Testing.

(B)

If the testing method is a non-standard or reference method, then a validation package must be submitted as outlined in the NELAC Institute Standard, Module 4: Quality Systems for Chemical Testing.

(4)

A certificate signed by the Laboratory Director that the proposed alternative testing method(s): (A) Is equivalent or better than SAE J 2975:DEC2013; and (B) Is suitable for analyzing the components identified in Health and Safety Code sections 25250.51, 25250.52, and 25250.53.

(A)

Is equivalent or better than SAE J 2975:DEC2013; and

(B)

Is suitable for analyzing the components identified in Health and Safety Code sections 25250.51, 25250.52, and 25250.53.

(5)

A copy of the data used by the Laboratory Director to determine that the proposed alternative testing method is equivalent or better than SAE J 2975:DEC2013.

(6)

A manufacturer of brake friction material, the testing certification agency, or the testing laboratory may submit a request for approval of an alternate testing method by either of the following methods:(A) For an electronic submittal, a person shall send the request to the Department via electronic mail (brakepad@dtsc.ca.gov) on the Department's website at <http://www.dtsc.ca.gov> with the words "Attention: California Brake Pad Alternative Testing Method Request" displayed in the subject line of the electronic mail; or (B) For a written submittal, a person shall send the request to the Department via certified mail, return receipt requested, at the following address: Department of Toxic Substances Control, Safer Products and Workplaces Program, P.O. Box 806, Sacramento, CA 95812-0806, with the words "Attention: California Brake Pad Alternative Testing Method Request" prominently displayed on the front of the envelope.

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For a written submittal, a person shall send the request to the Department via certified mail, return receipt requested, at the following address: Department of Toxic Substances Control, Safer Products and Workplaces Program, P.O. Box 806, Sacramento, CA 95812-0806, with the words "Attention: California Brake Pad Alternative Testing Method Request" prominently displayed on the front of the envelope.

(I)

How will the Department notify a requestor that an alternative testing method has been approved? The Department shall notify the manufacturer of brake friction material, testing certification agency, or testing laboratory in writing whether the alternative testing method was approved within 90 days of receiving the request. If the Department finds the alternative testing method is equivalent to or better than SAE J 2975:DEC2013 the Department shall provide the basis of the approval. If the Department does not find the alternative testing method equivalent to or better than SAE J 2975:DEC2013 the Department shall provide the basis for the denial. The alternative testing method approved by the Department shall be posted on the Department's Web page at <http://www.dtsc.ca.gov>.