For reasons discussed in the preamble, the Department of Transportation proposes to amend Title 49 of the Code of Federal Regulations, Part 23, as follows:

PART 23—[AMENDED]

1. The authority citation for 49 CFR Part 23 continues to read as follows:


2. Section 23.7 is proposed to be revised to read as follows:

§ 23.7 Program Reviews.

In 2010, and thereafter at the discretion of the Secretary, the Department will initiate a review of the ACDBE program to determine what, if any, modifications should be made to this Part.

[FR Doc. 2010–2293 Filed 2–2–10; 8:45 am]
BILLING CODE P

DEPARTMENT OF TRANSPORTATION

National Highway Traffic Safety Administration

49 CFR Part 571

[Docket No. NHTSA–2010–0012

RIN 2127–AK58

Federal Motor Vehicle Safety Standards; Motor Vehicle Brake Fluids

AGENCY: National Highway Traffic Safety Administration (NHTSA), Department of Transportation.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: This NPRM proposes to amend FMVSS No. 116, Motor Vehicle Brake Fluids, so that brake fluids would be tested with ethylene, propylene, and diene terpolymer (EPDM) rubber, as this type of rubber is increasingly being used in brake fluid seals. This NPRM also updates references to standards issued by the Society of Automotive Engineers (SAE) and the American Society for Testing and Materials (ASTM) (no substantive changes to the standard would be made by these updates), and corrects minor errors in the standard.

DATES: Comments must be received on or before April 5, 2010.

ADDRESSES: You may submit comments to the docket number identified in the heading of this document by any of the following methods:

- Federal eRulemaking Portal: Go to http://www.regulations.gov. Follow the online instructions for submitting comments.
- Mail: Docket Management Facility, M–30, U.S. Department of Transportation, West Building, Ground Floor, Rm. W12–140, 1200 New Jersey Avenue, SE., Washington, DC 20590.
- Hand Delivery or Courier: West Building Ground Floor, Room W12–140, 1200 New Jersey Avenue, SE., between 9 a.m. and 5 p.m. Eastern Time, Monday through Friday, except Federal holidays.
- Fax: (202) 493–2251.

Regardless of how you submit your comments, you should mention the docket number of this document.

You may call the Docket at 202–366–9324.

Instructions: For detailed instructions on submitting comments and additional information on the rulemaking process, see the Public Participation heading of the SUPPLEMENTARY INFORMATION section of this document. Note that all comments received will be posted without change to http://www.regulations.gov, including any personal information provided. Please see the Privacy Act discussion below.

Privacy Act: Anyone is able to search the electronic form of all comments received into any of our dockets by the name of the individual submitting the comment (or signing the comment, if submitted on behalf of an association, business, labor union, etc.). You may review DOT’s complete Privacy Act Statement in the Federal Register published on April 11, 2000 (65 FR 19477–78).

FOR FURTHER INFORMATION CONTACT:

SUPPLEMENTARY INFORMATION:
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I. Background
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VI. Effective Date

VII. Rulemaking Analyses and Notices
VIII. Public Participation

I. Background

Federal Motor Vehicle Safety Standard (FMVSS) No. 116, Motor Vehicle Brake Fluids (49 CFR 571.116), specifies requirements for fluids for use in hydraulic brake systems of motor vehicles, containers for these fluids, and labeling of the containers. The purpose of the standard is to reduce failures in the hydraulic braking systems of motor vehicles that may occur because of the manufacture or use of improper or contaminated fluid. FMVSS No. 116 was developed from Society of Automotive Engineers (SAE) Standards J1703, J1704, and J1705, which address the performance requirements and test procedures for DOT3, DOT4, and DOT5 brake fluid, respectively. FMVSS No. 116 incorporates by reference or otherwise refers to particular editions (by date) of SAE J1703. FMVSS No. 116 also references several standards published by the American Society for Testing and Materials (ASTM) relating to test procedures and devices.

II. Testing With Ethylene, Propylene, and Diene Terpolymer Rubber

This document proposes to update FMVSS No. 116 so that brake fluids would be tested with the materials currently used in the manufacture of brake fluid seals. Over the past two decades, the motor vehicle industry has increasingly gone from using styrene-butadiene rubber (SBR) for the brake system seals to ethylene, propylene, and diene terpolymer (EPDM) (as characterized by SAE J1703 AUG2008) rubber because EPDM rubber is more heat resistant and less expensive to manufacture. At present, FMVSS No. 116 tests the effects of brake fluid on SBR, but not on EPDM rubber.1 In this NPRM, we propose to include the testing of brake fluid on EPDM rubber.

The following amendments are proposed.

a. Definition of “Brake Fluid”

To apply FMVSS No. 116 to brake fluid that contacts EPDM rubber, we propose to expand the definition of “brake fluid” at S4 of the standard to expressly state that “brake fluid” includes liquids that contact EPDM rubber in a hydraulic brake system.

b. Corrosion Test

The corrosion test in FMVSS No. 116 (S5.1.6 and S6.6) evaluates the corrosive effects of brake fluid on several

1 In the early 1980s, SAE added testing of EPDM rubber to SAE J1703, Motor Vehicle Brake Fluid, and SAE J1704, Borate Ester Based Brake Fluid.
materials that are designed to come into contact with brake fluid, including iron, steel, aluminum, brass, copper, and SBR. Currently in the test, duplicate samples of metal corrosion test strips are assembled and placed along with an SBR wheel cylinder cup into a test jar, immersed in water-wet brake fluid, capped and placed in an oven at 100 degrees Celsius (212 degrees Fahrenheit) for 120 hours. Upon removal from the oven and cooling, the strips, SBR wheel cylinder cup and fluid are examined and tested. The performance results are based on an average of the results from each sample.

We propose to add an EPDM slab stock to each test jar and to use performance criteria and test procedures developed by the SAE and incorporated into SAE J1703, dated August 2008 ("SAE J1703 AUG2008") (see Appendix D), and SAE J1704, dated June 2003 ("SAE J1704 JUN2003"). We have evaluated these SAE standards and tentatively concludes that these standards will effectively evaluate the compatibility of brake fluid with EPDM for the following reasons. The SAE brake fluid standards are developed and edited by the SAE Brake Fluid Standards Committee. The Committee members are from the brake fluid manufacturing, packaging, and testing industries as well as from the motor vehicle manufacturing industry. The Committee members have considerable knowledge and experience with brake fluid products and brake fluid standards, and we believe it would be reasonable to rely on the Committee’s knowledge and expertise. The agency has reviewed the material in SAE J1703 and J1704 and determined that it should be referenced in FMVSS No. 116.

c. Effect on Rubber

At present, the effect of brake fluid on SBR is tested by using two jars with two SBR wheel cylinder cups tested in each jar. One jar is heated to 70 degrees Celsius (158 degrees Fahrenheit) and the other is heated to 120 degrees Celsius (248 degrees Fahrenheit). We propose to amend this test by including two EPDM rubber specimens in two additional jars (see SAE J1704 JUN2003). Also, we propose adopting the performance requirements for EPDM rubber specimens in SAE Standard J1703 AUG2008, paragraphs 4.11.3 and 4.11.4. As previously stated, we tentatively conclude it would be reasonable to rely on the knowledge and expertise of the Brake Fluid Standards Committee in proposing to adopt the performance requirements for EPDM rubber specimens.

d. Continuing To Test SBR

We believe there is still a need for FMVSS No. 116 to continue to specify testing the effect of brake fluid on SBR. Based on limited inquiries to industry (to fewer than nine companies), NHTSA believes that industry has not completely converted to using EPDM rubber, and in some cases, manufacturers continue to use SBR in brake system seals. We note that under SAE Standards J1703 AUG2008 and J1704 JUN2003, the most recent versions of those standards, brake fluid is still tested for its effect on SBR. Since it appears that SBR is continued to be used in brake system seals, we propose to continue to test the effect of brake fluids on SBR in FMVSS No. 116.

III. Updating SAE Standard J1703

Since FMVSS No. 116 took effect in the early 1970’s, we have referenced SAE standard J1703 as the source of the specifications for materials and procedures used in the specified FMVSS No. 116 tests. SAE has updated its standard over the years and the editions of the standard currently referenced in FMVSS No. 116 are not recent editions of the standard issued by that organization.

For example, FMVSS No. 116 specifies the use of materials and apparatus set forth in the tables and appendices of SAE Standard J1703 to conduct brake fluid testing. The current edition of J1703 is SAE Standard J1703 AUG2008, which has specifications for the corrosion test strips, the compatibility fluid, and styrene-butadiene rubber (SBR), in Appendices A, B, and C, respectively. However, FMVSS No.116 makes several references to SAE Standard J1703b, which is a 1971 edition of the SAE standard.

FMVSS No. 116 also references SAE Standard J1703 NOV83 and other editions of SAE Standard J1703. The contents of the appendices and figures of the older editions of SAE Standard J1703 are generally the same as the contents of the newer editions, although the compatibility fluid has been updated as necessary to be representative of current brake fluids. This NPRM proposes to amend FMVSS No. 116 to incorporate by reference the most recent version of the SAE brake fluid standard that contains the appropriate information. These updates make no substantive changes in the requirements, with the exception of the compatibility fluid, which has been changed from the JAN1995 version. We propose to reference the most recent version of SAE Standard J1703 because the most recent versions of the Standards are readily available from the SAE.

The following table summarizes the proposed references to the updated SAE Standard J1703.

<table>
<thead>
<tr>
<th>Reference site</th>
<th>Current version</th>
<th>Proposed version</th>
<th>NHTSA comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>S6.2.1 Triethylene Glycol Monomethyl Ether (TEGME—RM-71).</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S6.5 Fluid Stability</td>
<td>Appendix B of SAE J1703 JAN95</td>
<td>Appendix B of SAE J1703 AUG 2008.</td>
<td>Compatibility fluid is changed to be representative of recently marketed products.</td>
</tr>
<tr>
<td>S6.6 Corrosion</td>
<td>Appendix C of SAE J1703b</td>
<td>Appendix A of SAE J1703 AUG 2008.</td>
<td>Compatibility fluid is changed periodically.</td>
</tr>
<tr>
<td>S6.6.3(a) Materials—Corrosion Test Strips.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S6.10 Compatibility</td>
<td>Appendix B or SAE J1703 JAN95</td>
<td>Appendix B of SAE J1703 AUG 2008.</td>
<td></td>
</tr>
<tr>
<td>S6.10.1 Summary of Procedure—Compatibility Fluid.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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2 We are proposing to update the current reference to SAE J1703 and add a reference to J1704 in the standard to refer to these August 2008 and June 2003 versions of the standards. See discussion in next section of this preamble.
IV. Updating American Society for Testing and Materials Standards

FMVSS No. 116 also references several standards published by the American Society for Testing and Materials (ASTM). These ASTM standards refer to equipment and specifications for materials, fluids, and apparatus used to conduct several brake fluid tests in FMVSS No. 116. The ASTM standards have been updated by ASTM committees. NHTSA proposes to update the editions of the ASTM standards referenced in FMVSS No. 116 because the most recent versions of the standards are readily available from ASTM. The following table summarizes the proposed updates to the ASTM Standards.

TABLE 2—ASTM STANDARDS REFERENCED IN FMVSS NO. 116

<table>
<thead>
<tr>
<th>ASTM standard</th>
<th>Reference cited in FMVSS No. 116</th>
<th>Referenced version</th>
<th>Updated version</th>
<th>NHTSA Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASTM D1121</td>
<td>Equipment for ph testing.</td>
<td>ASTM D1121–67</td>
<td>ASTM D1121–06</td>
<td>#116 information unchanged.</td>
</tr>
</tbody>
</table>

V. Other Proposed Corrections and Updates to FMVSS No. 116

Through our contact over the years with Transport Canada, vehicle manufacturers, brake fluid manufacturers and brake fluid testing facilities, we are aware of corrections and updates to FMVSS No. 116 are in order. The following are our proposed changes, with rationale for the proposed changes.

a. Correction to Reference in S6.3.2(a) Viscometers

At present, S6.3.2 Viscometers, states that the viscosity should be measured within the precision limits of S6.4.7. This reference is incorrect. The correct reference is S6.3.7. This NPRM would correct the reference so the regulatory text refers to S6.3.7.

b. Temperature Measurement Gradients

At present in FMVSS No. 116, there are two temperature measurement references (see S6.3.2(c), Viscometer bath, and S6.3.3(b), Thermometers) where accuracy to the nearest 0.01 degree Celsius (0.02 degrees Fahrenheit) is specified. In this NPRM, we propose to make the temperature control requirements and the gradations specified for thermometers consistent. Therefore, we propose that the temperature of the viscometer bath for the 100 degrees Celsius (212 degrees Fahrenheit) viscosity tests be allowed to vary by 0.05 degrees Celsius (0.1 degrees Fahrenheit). We propose to amend the text at S6.3.2(c) to allow an increase in temperature variation from the 0.01 degrees Celsius (0.02 degrees Fahrenheit) to 0.05 degrees Celsius (0.1 degrees Fahrenheit). In addition, S6.3.3(b) Thermometers, currently refers to checking thermometers to the nearest 0.01 degree Celsius (0.02 degrees Fahrenheit) by direct comparison with a standardized thermometer. The thermometers specified in the standard for kinematic viscosity testing are listed in Table IV of
FMVSS No. 116 and have gradation of 0.05 degrees Celsius (0.1 degrees Fahrenheit). To make S6.3.3(b) consistent with the Table IV thermometers, we propose to amend S6.3.3(b) so that the thermometers are checked to the nearest 0.05 degrees Celsius (0.1 degrees Fahrenheit).

NHTSA believes this proposed change in temperature variation will not adversely affect the accuracy of the viscosity measurements. Comments are requested on this issue.

c. Timers

At present, S6.3.3(c), Timers, refers to signals broadcast by the National Bureau of Standards, Station WWV, Washington, DC. We propose to change the reference to the National Institute of Standards and Technology (NIST), which replaced the National Bureau of Standards, to update other references, and include a new reference to a government Web site that can be consulted for the correct time. Therefore, we propose to amend the information in the first sentence of S6.3.3(c) to read: “Time signals are broadcast by the National Institute of Standards and Technology (NIST), Station WWV, Fort Collins, Colorado at 2.5, 5, 10, 15, and 20 Mc/sec (MHz), or the following Web site: http://www.time.gov.”

d. Reinstatement of Inadvertently Removed Paragraph

S5.1.10, Compatibility, describes the performance requirements for brake fluid when tested in accordance with S6.10.1(a), At low temperature, and S6.10.3(b), At 60 degrees Celsius (140 degrees Fahrenheit). At some point, S6.10.3(b) was inadvertently removed from FMVSS No. 116. In this NPRM, we propose to reinstate the paragraph.

VI. Effective Date

We propose that if made final, the amendments proposed in this NPRM become effective 180 days after publication of a final rule in the Federal Register. We solicit public comment on this issue.

VII. Rulemaking Analyses and Notices

a. Executive Order 12866 and DOT Regulatory Policies and Procedures

NHTSA has considered the impact of this rulemaking action under Executive Order 12866 and the Department of Transportation’s regulatory policies and procedures. It was not reviewed by the Office of Management and Budget under E.O. 12866, “Regulatory Planning and Review.” Further, it is not significant for the purposes of the DOT policies and procedures. This proposed rule would update the standard so that it tests brake fluid with EPDM rubber specimens, updates references to SAE and ASTM Standards, and corrects errors. We believe brake fluid is already manufactured to be compatible with EPDM rubber, since the material is used in brake systems today. The costs of the proposed rule would be minimal. We estimate that there are 10 to 15 brake fluid manufacturers that provide brake fluid for the United States market, including OEM and aftermarket brake fluid, and a somewhat larger number of packagers of brake fluid. If this proposal is made final, the brake fluid manufacturers will need to conduct testing to determine whether their products meet the new requirements after these amendments become effective. However, the testing costs should not increase significantly because this proposal would require changes in relatively inexpensive test equipment, including the purchase of EPDM rubber.

b. Regulatory Flexibility Act

We have considered the effects of this rulemaking action under the Regulatory Flexibility Act (5 U.S.C. 601 et seq.) I hereby certify that this proposed rule, if made final, will not have a significant economic impact on a substantial number of small entities. The statement of the factual basis for this certification is that, as discussed above, brake fluid currently meets the proposed requirements for testing with EPDM rubber. The effects of this rulemaking would also have no significant economic impact because this rulemaking also simply updates references to SAE and ASTM Standards and would correct errors. For these reasons, the changes proposed would not have any significant economic impacts on small businesses, small organizations or small governmental jurisdictions.

c. National Environmental Policy Act

NHTSA has analyzed this proposed rule for the purposes of the National Environmental Policy Act and determined that it would not have any significant impact on the quality of the human environment.

d. Executive Order 13132 (Federalism)

NHTSA has examined today’s NPRM pursuant to Executive Order 13132 (64 FR 43255, August 10, 1999) and concluded that no additional consultation with States, local governments, or their representatives is mandated beyond the rulemaking process. The agency has concluded that the proposed rule would not have sufficient federalism implications to warrant consultation with State and local officials or the preparation of a federalism summary impact statement. The proposal would not have “substantial direct effects on the States, the relationship between the national government and the States, or on the distribution of power and the responsibilities among the various levels of government.”

Further, no consultation is needed to discuss the preemptive effect of today’s proposed rule. NHTSA’s safety standards can have preemptive effect in two ways. First, the National Traffic and Motor Vehicle Safety Act contains an express preemption provision: “When a motor vehicle safety standard is in effect under this chapter, a State or a political subdivision of a State may prescribe or continue in effect a standard applicable to the same aspect of performance of a motor vehicle or motor vehicle equipment only if the standard is identical to the standard prescribed under this chapter.” 49 U.S.C. 10103(b)(1). It is this statutory command that unambiguously preempts State legislative and administrative law, not today’s rulemaking, so consultation would be unnecessary.

Second, the Supreme Court has recognized the possibility of implied preemption: In some instances, State requirements imposed on motor vehicle manufacturers, including sanctions imposed by State tort law, can stand as an obstacle to the accomplishment and execution of a NHTSA safety standard. When such a conflict is discerned, the Supremacy Clause of the Constitution makes the State requirements unenforceable. See Geier v. American Honda Motor Co., 529 U.S. 861 (2000). However, NHTSA has considered the nature and purpose of today’s proposed rule and does not foresee any potential State requirements that might conflict with it. Without any conflict, there could not be any implied preemption.

e. Unfunded Mandates Act

The Unfunded Mandates Reform Act (UMRA) of 1995 requires agencies to prepare a written assessment of the costs, benefits and other effects of proposed or final rules that include a Federal mandate likely to result in the expenditure by State, local or tribal governments, in the aggregate, or by the private sector, of more than $100 million annually (adjusted for inflation with base year of 1995). This proposed rule will not result in the expenditure by State, local or tribal governments, in the aggregate, or by the private sector, of more than $100 million annually. Thus, this proposed rule is not subject to the
requirements of sections 202 and 205 of the UMRA.

f. Executive Order 12778 (Civil Justice Reform)

Pursuant to Executive Order 12778, “Civil Justice Reform,” we have considered whether this proposed rule, if made final, would have any retroactive effect. We conclude that it would not have such an effect. Under 49 U.S.C. section 30103, whenever a Federal motor vehicle safety standard is in effect, a state may not adopt or maintain a safety standard applicable to the same aspect of performance which is not identical to the Federal standard, except to the extent that the state requirement imposes a higher level of performance and applies only to vehicles procured for the State’s use.

49 U.S.C. 30161 sets forth a procedure for judicial review of final rules establishing, amending or revoking Federal motor vehicle safety standards. That section does not require submission of a petition for reconsideration or other administrative proceedings before parties may file suit in court.

g. Paperwork Reduction Act

NHTSA has determined that this proposed rule will not impose any “collection of information” burdens on the public, within the meaning of the Paperwork Reduction Act of 1995 (PRA). This rulemaking action will not impose any filing or recordkeeping requirements on any manufacturer or any other party.

h. National Technology Transfer and Advancement Act

Section 12(d) of the National Technology Transfer and Advancement Act (NTTAA) requires NHTSA to evaluate and use existing voluntary consensus standards in its regulatory activities unless doing so would be inconsistent with applicable law (e.g., the statutory provisions regarding NHTSA’s vehicle safety authority) or otherwise impractical. Consistent with the NTTAA, in this proposed rule, we propose to update references (in FMVSS No. 116) to SAE and ASTM standards, which are voluntary industry consensus standards.

i. Executive Order 13045 Economically Significant Rules Disproportionately Affecting Children

Executive Order 13045 (62 FR 19885, April 23, 1997) applies to any rule that: (1) Is determined to be “economically significant” as defined under E.O. 12866, and (2) concerns an environmental, health or safety risk that NHTSA has reason to believe may have a disproportionate effect on children. This regulatory action does not meet either of those criteria.

j. Plain Language

Executive Order 12866 and the President’s memorandum of June 1, 1998, require each agency to write all rules in plain language. Application of the principles of plain language includes consideration of the following questions:

—Have we organized the material to suit the public’s needs?
—Are the requirements in the rule clearly stated?
—Does the rule contain technical language or jargon that is not clear?
—Would a different format (grouping and order of sections, use of headings, paragraphing) make the rule easier to understand?
—Would more (but shorter) sections be better?
—Could we improve clarity by adding tables, lists, or diagrams?
—What else could we do to make the rule easier to understand?

If you have any responses to these questions, please include them in comments to the docket number cited in the heading of this notice.

k. Regulation Identifier Number (RIN)

The Department of Transportation assigns a regulation identifier number (RIN) to each regulatory action listed in the Unified Agenda of Federal Regulations. The Regulatory Information Service Center publishes the Unified Agenda in April and October of each year. You may use the RIN contained in the heading at the beginning of this document to find this action in the Unified Agenda.

VIII. Public Participation

How do I prepare and submit comments?

Your comments must be written and in English. To ensure that your comments are correctly filed in the Docket please include the docket number of this document in your comments.

Your comments must not be more than 15 pages long (49 CFR 553.21). We established this limit to encourage you to write your primary comments in a concise fashion. However, you may attach necessary additional documents to your comments. There is no limit on the length of the attachments.

Please submit two copies of your comments, including the attachments, to the Docket at the address given above under ADDRESSES.

Comments may also be submitted to the docket electronically by logging into http://www.regulations.gov. Follow the online instructions for submitting comments.

Please note that pursuant to the Data Quality Act, in order for substantive data to be relied upon and used by the agency, it must meet the information quality standards set forth in the OMB and DOT Data Quality Act guidelines. Accordingly, we encourage you to consult the guidelines in preparing your comments. OMB’s guidelines may be accessed at http://www.whitehouse.gov/omb/fedreg/reproducible.html.

How can I be sure that my comments were received?

If you wish Docket Management to notify you upon its receipt of your comments, enclose a self-addressed, stamped postcard in the envelope containing your comments. Upon receiving your comments, Docket Management will return the postcard by mail.

How do I submit confidential business information?

If you wish to submit any information under a claim of confidentiality, you should submit three copies of your complete submission, including the information you claim to be confidential business information, to the Chief Counsel, NHTSA, at the address given above under FOR FURTHER INFORMATION CONTACT. In addition, you should submit two copies, from which you have deleted the claimed confidential business information, to Docket Management at the address given above under ADDRESSES. When you send a comment containing information claimed to be confidential business information, you should include a cover letter setting forth the information specified in our confidential business information regulation (49 CFR Part 512).

Will the agency consider late comments?

We will consider all comments that Docket Management receives before the close of business on the comment closing date indicated above under DATES. To the extent possible, we will also consider comments that Docket
Management receives after that date. If Docket Management receives a comment too late for us to consider in developing a final rule (assuming that one is issued), we will consider that comment as an informal suggestion for future rulemaking action.

How can I read the comments submitted by other people?

You may read the comments received by Docket Management at the address given above under ADDRESSES. The hours of the Docket are indicated above in the same location. You may also see the comments on the Internet. To read the comments on the Internet, go to http://www.regulations.gov. Follow the online instructions for accessing the docket.

Please note that even after the comment closing date, we will continue to file relevant information in the Docket as it becomes available. Further, some people may submit late comments. Accordingly, we recommend that you periodically check the Docket for new material.

List of Subjects in 49 CFR Part 571

Imports, Motor vehicle safety, Motor vehicles, and Tires.

In consideration of the foregoing, NHTSA proposes to amend 49 CFR Part 571 as set forth below.

PART 571—FEDERAL MOTOR VEHICLE SAFETY STANDARDS

1. The authority citation for Part 571 continues to read as follows:

Authority: 49 U.S.C. 322, 30111, 30115, 30117 and 30166; delegation of authority at 49 CFR 1.50.

2. Section 571.116 is amended by:

(a) Revising in S4, the definition of “brake fluid”;
(b) Adding in S5.1.6, paragraphs (j), (k) and (l);
(c) Adding in S5.1.12, paragraphs (d), (e) and (f);
(d) Revising, in S6.2.1, the first sentence;
(e) Revising, in S6.3.2, in paragraph (a), the first sentence;
(f) Revising, in S6.3.2, in paragraph (b), the third and fourth sentences;
(g) Revising, in S6.3.2, in paragraph (a), the first sentence;
(h) Revising, in S6.3.3, in paragraph (b), the first sentence and third sentence;
i. Revising, in S6.3.3, the first sentence of paragraph (c);
j. Revising, in S6.4.2, the first sentence;
k. Revising, S6.5.4.1;
l. Revising in S6.6.3, the first sentence of paragraph (a) and paragraph (b);
m. Revising, in S6.6.4(b), the heading and adding at the end, the sentence set forth below:
(n) Revising S6.6.5;
o. Revising, in S6.10.1, the first sentence;
p. Revising, in S6.10.2, paragraph (e);
q. Revising, in S6.10.3, in paragraph (a), the first sentence;
r. Adding, in S6.10.3, paragraph (b);
s. Revising, in S6.11.3, in paragraph (a), the second sentence;
t. Revising, in S6.11.3, paragraph (b);
u. Revising S6.12;
v. Redesignating, in S6.12.1, the existing paragraph as paragraph (a) and adding paragraph (b);
w. Revising, in S6.12.2, paragraph (c);
x. Redesignating, in S6.12.3, the existing sentence as paragraph (a), and adding paragraph (b);
y. Redesignating, in S6.12.4, the existing paragraph as paragraph (a) and adding paragraph (b);
z. Redesignating S6.12.5 Calculation as S6.12.5.1 Calculation—SBR Cups.
aa. Adding, after S6.12.5.1, S6.12.5.2 Calculation—EPDM Rubber Specimens and paragraphs (a), (b), and (c);
b. Revising, in S6.13.2, the first sentence;
c. Revising S7.1;
d. Revising in S7.2, the first sentence;
e. Revising, in S7.4.1, paragraph (b); and
f. Revising in S7.6, the first sentence in the undesignated paragraph following the note, and adding a new sentence immediately following that sentence, to read as follows:

§571.116 Standard No. 116, Motor vehicle brake fluids.

S4. Definitions

Brake fluid means a liquid designed for use in a motor vehicle hydraulic brake system in which it will contact elastomeric components made of styrene-butadiene rubber (SBR), ethylene and propylene rubber (EPR), polychloroprene (CR) brake hose inner layers, stock natural rubber (NR) or ethylene, propylene, and diene terpolymer (EPDM) rubber.

S5.1.6 Corrosion.

(j) The EPDM rubber test specimens at the end of the test shall meet the requirements specified in paragraph 4.6.2 of SAE J1704 JUN2003 with respect to hardness.

(k) The EPDM rubber test specimens at the end of the test shall meet the requirements specified in paragraph 4.6.2 of SAE J1704 JUN2003 with respect to volume requirements.

S5.1.12 Effects on SBR cups and EPDM rubber specimens.

*x * * * *

(d) EPDM rubber specimens tested as specified in S6.12.4 (of FMVSS No. 116) at 70 degrees Celsius (158 degrees Fahrenheit) shall meet the performance requirements for volume and hardness specified in paragraph 4.11.3 of SAE J1703 AUG 2008.

(e) EPDM rubber specimens tested as specified in S6.12.4 (of FMVSS No. 116) at 120 degrees Celsius (248 degrees Fahrenheit) shall meet the performance requirements for volume and hardness specified in paragraph 4.11.4 of SAE J1703 Aug 2008.

(f) The EPDM rubber specimen shall show no disintegration as evidenced by stickiness, blisters or sloughing.

S6.2.1 Summary of procedure. A 350 ml. sample of the brake fluid is humidified under controlled conditions; 350 ml. of SAE triethylene glycol monomethyl ether (TEGME) as described in Appendix E of SAE J1703 AUG 2008, “Motor Vehicle Brake Fluids,” is used to establish the end point of humidification.

S6.3.2 Apparatus.


(c) Viscometer bath. For measurements within 15 degrees to 100 degrees Celsius (60 degrees to 212 degrees Fahrenheit) the temperature of the bath medium shall not vary by more than 0.05 degrees Celsius (0.1 degrees Fahrenheit) over the length of the viscometers, or between the positions of the viscometers, or at the locations of the thermometers. Outside this range, the variation shall not exceed 0.05 degrees Celsius (0.1 degrees Fahrenheit).

(d) Thermometers. Liquid-in-Glass Kinematic Viscosity Test Thermometers, covering the range of test temperatures indicated in Table IV and conforming to ASTM E1–07, “Standard Specifications for ASTM Liquid-in-Glass Thermometers,” and in the IP
requirements for IP Standard Thermometers. * * * * 

S6.3.3 Standardization.
* * * * *

(b) Thermometers. Check liquid-in-glass thermometers to the nearest 0.05 degrees Celsius (0.1 degrees Fahrenheit) by direct comparison with a standardized thermometer, * * * (See ASTM E 77–98 (2003), “Standard Test Method for Inspection and Verification of Thermometers.”)

(c) Timers. Time signals are broadcast by the National Institute of Standards and Technology (NIST), Station WWV, Fort Collins, Colorado at 2.5, 5, 10, 15, and 20 Mc/sec (MHz), or the following Web site: http://www.time.gov. * * * * *

S6.4.2 Apparatus. The pH assembly consists of the pH meter, glass electrode, and calomel electrode, as specified in ASTM D1121–07, “Standard Test Method for Reserve Alkalinity of Engine Coolants and Antifreezes.”


S6.6.3 Materials. (a) Corrosion test strips. Two sets of strips from each of the materials listed in Appendix A of SAE J1703 AUG2008.

* * * * *

(b) SBR cups and EPDM rubber specimens. Two unused standard SAE SBR wheel cylinder (wc) cups as specified in S7.6 and two unused EPDM specimens 25.4 mm x 25.4 mm (1 inch x 1 inch) as specified in Appendix D of SAEJ1703 AUG2008.

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S6.6.4 Preparation.
* * * * *

(b) SBR WC cups and EPDM rubber specimens * * * * Determine the volume of each EPDM rubber specimen according to the procedure specified in paragraph 5.6.2 of SAE J1704 JUN2003 and the hardness of each specimen as specified in FMVSS No. 116, S7.4.

* * * * *

S6.6.5 Procedure. (a) Rinse the two SBR wheel cylinder cups and two EPDM specimens in ethanol (isopropanol when testing DOT 5 SBBF fluids) for not more than 30 seconds and wipe dry with a clean lint-free cloth. Place one SBR cup with lip edge facing up and one EPDM specimen in each jar. Insert a metal strip assembly inside each cup with the fastened end down and the free end extending upward. (See Figure 5.)

When testing brake fluids, except DOT 5 SBBF, mix 760 ml of brake fluid with 40 ml of distilled water. When testing DOT 5 SBBFs, humidify 800 ml of brake fluid in accordance with S6.2 of FMVSS No. 116, eliminating determination of the ERBP. Using this water-wet mixture, cover each strip assembly to a minimum depth of 10 mm above the tops of the strips. Tighten the lids and place the jars for 120 ± 2 hours in an oven maintained at 100 degrees ± 2 degrees Celsius (212 degrees ± 3.6 degrees Fahrenheit). Allow the jars to cool at 23 degrees ± 5 degrees Celsius (73.4 degrees ± 9 degrees Fahrenheit) for 60 to 90 minutes.

(b) Immediately remove the strips from the jars using forceps, agitating the strip assembly in the fluid to remove loose adhering sediment. Examine the test strips and jars for adhering crystalline deposits. Disassemble the metal strips, and remove adhering fluid by flushing with water; clean each strip by wiping with a clean cloth wetted with ethanol (isopropanol when testing DOT 5 fluids). Examine the strips for evidence of corrosion and pitting. Disregard staining or discoloration.

(c) Place the strips in a dessicator containing silica gel or other suitable desiccant, maintained at 23 degrees ± 5 degrees Celsius (73.4 degrees ± 9 degrees Fahrenheit) for at least one hour. Determine the change in weight of each metal strip. Average the results for the two strips of each type of metal. Immediately following the cooling period, remove the SBR cups and EPDM specimens for the jars with forceps. Remove loose adhering sediment by agitation of the cups and specimens in the mixture.

(d) Rinse the SBR cups and EPDM specimens in ethanol (isopropanol when testing DOT 5 fluids) and air-dry. Examine the SBR cups and EPDM specimens for evidence of sloughing, blisters and other forms of disintegration. Measure the base diameter and hardness of each SBR cup within 15 minutes after removal from the mixture. Within 15 minutes after removal from the mixture, weigh the EPDM specimens; calculate the volume change as specified in paragraph 5.6.2 of SAE J1704 JUN2003 and test for hardness (See FMVSS No. 116, S7.4).

(e) Examine the mixture for gelling. Agitate the mixture to suspend and uniformly disperse sediment. From each jar, transfer a 100 ml portion of the mixture to an ASTM cone-shaped centrifuge tube. Determine the percent sediment after centrifuging as described in Section 5.5. Measure the pH value of the corrosion test fluid according to S6.4.6 of FMVSS No. 116. Measure the pH value of the test mixture according to S6.4.6 of FMVSS No. 116.

* * * * *

S6.10.1 Summary of procedure. Brake fluid is mixed with an equal volume of SAE RM–66–05 Compatibility Fluid, then tested in the same way as the water tolerance (See S6.9 of FMVSS No. 116) is tested, except that the bubble flow time is not measured. * * * * *

S6.10.2 Apparatus and materials. * * * * *


S6.10.3 Procedure. (a) At low temperature. Mix 50 ± 0.5 mL of brake fluid with 50 ± 0.5 mL of SAE RM–66–05 Compatibility Fluid. * * * *

(b) At 60 degrees Celsius (140 degrees Fahrenheit). Place tube and test fluid from S6.10.3(a) of FMVSS No. 116 for 24 ± 2 hours in an oven maintained at 60 degrees Celsius ± 2 degrees Celsius (140 degrees Fahrenheit ± 3.6 degrees Fahrenheit). Remove the tube and immediately examine the contents for evidence of stratification. Determine percent sediment by centrifuging as described in Section 7.5 of FMVSS No. 116.

* * * * *

S6.11.3 Reagents and materials. (a) Benzoyl peroxide, reagent grade, 96 percent. * * * Reagent strength may be evaluated by ASTM E298–01, “Standard Test Method for Assay of Organic Peroxides.”

(b) Corrosion test strips. Two sets of cast iron and aluminum metal test strips as described in Appendix A of SAE J1703 AUG2008.

* * * * *

S6.12 Effects on SBR cups and EPDM rubber specimens. The effects of a brake fluid in swelling, softening, and otherwise affecting standard SBR wheel cylinder cups and EPDM specimens shall be evaluated by the following procedure.

S6.12.1 Summary of the procedure. * * * * *

(b) Four EPDM specimens, 25.4 mm x 25.4 mm (one inch x one inch) are measured, weighed, and their hardness determined. The specimens, two to a jar, are immersed in the test brake fluid. One jar is heated for 70 hours at 70 degrees Celsius (158 degrees Fahrenheit) and the other jar is heated for 70 hours at 120 degrees Celsius (248 degrees Fahrenheit). Afterwards, the specimens are washed, examined for disintegration, measured again, weighed again, and tested again for hardness.
(c) SBR cups and EPDM rubber specimens. For rubber cup specimens, see S7.6 of FMVSS No. 116. For EPDM rubber specimens, see Appendix D of SAE Standard J1703 AUG2008.

S6.12.3 Preparation.

(b) Measure the base diameters of the SBR cups as described in S6.6.4(b) of FMVSS No. 116 and the hardness of each as described in S7.4 of FMVSS No. 116. Determine the volume of each EPDM rubber specimen as specified in paragraph 5.11.3 of SAE J1703 AUG2008 and the hardness of each EPDM rubber specimen as described in S7.4 of FMVSS No. 116.

S6.12.4 Procedure.

(b) Wash the EPDM rubber specimens in 90 percent ethanol (isopropanol when testing DOT 5 fluids) (See S7.3 of FMVSS No. 116) for not longer than 30 seconds and quickly dry with a clean, lint-free cloth. Using forceps, place two specimens in each of two jars, add 75 ml of brake fluid to each jar and cap tightly. Place one jar in an oven held at 70 degrees ± 2 degrees Celsius (158 degrees ± 3.6 degrees Fahrenheit) for 70 ± 2 hours. Place the other jar in an oven held at 120 degrees ± 2 degrees Celsius (248 degrees ± 3.6 degrees Fahrenheit) for 70 degrees ± 2 hours. Allow each jar to cool for 60 to 90 minutes at 23 degrees ± 5 degrees Celsius (73.4 degrees ± 9 degrees Fahrenheit). Remove specimens, wash with ethanol (isopropanol when testing DOT 5 fluids) for not more than 30 seconds, and quickly dry. Examine specimens for disintegration, as evidenced by stickiness, blisters, or sloughing. Measure each specimen, test the hardness of each specimen, and complete the procedure for determining percent change in volume (paragraph 5.11.3 of SAE J1703 AUG2008) of each specimen within 15 minutes after removal from the fluid.

S6.12.5.1 Calculation—SBR Cups.

S6.12.5.2 Calculation—EPDM rubber specimens.

(a) Calculate the percentage change in volume of each specimen as specified in paragraphs 5.11.3 of SAE J1703 AUG2008.

(b) Calculate the change in hardness for each specimen. (See S7.4 of 49 CFR 571.116.)

(c) Note disintegration as evidenced by stickiness, blisters, or sloughing.

S6.13.2 Apparatus and equipment.

The stroking fixture type apparatus shown in Figure 1 of SAE J1730 OCT2000 with components arranged as shown in Figure 2 of SAE J1703 OCT2000.


S7.4.1 Apparatus.

(b) Hardness tester. A hardness tester meeting the requirements for the standard instrument as described in ASTM D1415–06, “Standard Test Method for Rubber Property-International Hardness’’ and graduated directly in IRHD units.

S7.6 Standard styrene-butadiene rubber (SBR) brake cups. Compounding, vulcanization, physical properties and other details of the finished cups shall be as specified in Appendix C of SAE J1703 AUG2008. The size of the finished cups shall be as specified in Figures 4, 5 and 6 of SAE J1703 OCT2000.

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Stephen R. Kratzke,
Associate Administrator for Rulemaking.

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