

California Environmental Protection Agency



**Certification Procedure 501
For Portable Fuel Containers And
Spill-Proof Spouts**

CP-501

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**California Environmental Protection Agency
Air Resources Board**

CP-501

**Certification Procedure For
Portable Fuel Containers and Spill-Proof Spouts**

The definitions in Section 2467.1, Title 13 of the California Code of Regulations (CCR) apply to this Certification Procedure. For purposes of this Procedure, the term "ARB" refers to the California Air Resources Board.

1. GENERAL INFORMATION AND APPLICABILITY

This document specifies the criteria and procedures used by ARB to evaluate and certify portable fuel containers, spouts, or both portable fuel container and spouts manufactured for sale, advertised for sale, sold, or offered for sale in California or that are introduced, delivered or imported into California for introduction into commerce. An Executive Order will only be issued for a portable fuel container, spout, or both portable fuel container and spout that demonstrates compliance with all applicable certification requirements.

1.1 Legislative and Regulatory Requirements of Other State Agencies

The Executive Officer shall coordinate these Certification and Compliance Procedures with:

- a) California State Fire Marshal (SFM); and
- b) California Department of Industrial Relations, Division of Occupational Safety and Health (DOSH).

1.2 Requirement to Comply with All Other Applicable Codes and Regulations

Compliance with the Performance, Certification or Compliance Standards in this Section does not exempt spill-proof systems or spill-proof spouts from compliance with other applicable federal and state statutes and regulations such as state fire codes, safety codes, and other safety regulations, nor will the Air Resources Board test for or determine compliance with such other statutes or regulations.

2. CERTIFICATION REQUIREMENTS

The application for certification shall include the results for each test specified in Air Resources Board Test Procedure TP-501, Test Procedure for Determining Integrity of Spill-Proof Spouts and Spill-Proof Systems (Date) and Air Resources Board Test Procedure TP-502, Test Procedure for Determining Diurnal Emissions from

Portable Fuel Containers (Date), which are incorporated by reference herein. The tests shall be conducted using six (6) spill-proof systems, or spill-proof spouts of the same product family. An accredited independent test laboratory shall conduct all tests specified in this Certification Procedure. For purposes of this requirement, an accredited independent test laboratory is one that is not owned, operated or affiliated with the applicant seeking an Executive Order. The certification requirements are included in Table 2-1.

2.1 Openings

A portable fuel container may incorporate a secondary opening or vent hole (i.e. an opening other than the opening needed for the spout) provided the secondary opening or vent hole is not easily tampered by a consumer, and it does not emit hydrocarbon vapors in excess of the amounts specified in these requirements during fueling, storage, transportation or handling events.

2.2 Color

Portable fuel containers shall be color coded for specific fuels:

- a) Gasoline – red;
- b) Diesel – yellow; and
- c) Kerosene – blue.

Each portable fuel container must have identification markings on the container and on the spill-proof spout.

- a) Red containers shall be permanently identified with the embossed language, or permanent durable label “GASOLINE” in minimum 34-point Arial font or a font of equivalent proportions.
- b) Yellow containers shall be permanently identified with the embossed language, or permanent durable label “DIESEL” in minimum 34-point Arial font or a font of equivalent proportions.
- c) Blue containers shall be permanently identified with the embossed language, or permanent durable label “KEROSENE” in minimum 34-point Arial font or a font of equivalent proportions.

2.3 Diurnal Emissions Standard

- a) Portable fuel containers produced on or after July 1, 2007 that are equipped with an intended spill-proof spout must emit no more than 0.4 grams per gallon per-day as determined by Air Resources Board Test Procedure TP-502, Test Procedure for Determining Diurnal Emissions from Portable Fuel Containers (Date), which is incorporated by reference

herein.

- b) Portable fuel containers produced on or after January 1, 2009 that are equipped with an intended spill-proof spout must emit no more than 0.3 grams per gallon per-day as determined by Air Resources Board Test Procedure TP-502 Test Procedure for Determining Diurnal Emissions from Portable Fuel Containers (Date), which is incorporated by reference herein.
- c) Portable fuel containers that share similar designs, are constructed of identical materials, and that are manufactured using identical processes, but vary only in size may be considered for certification as a product family.

2.4 Durability

Portable fuel containers, spouts, or both portable fuel containers and spouts must comply with the specifications for durability in Air Resources Board Test Procedure TP-501, Test Procedure for Determining Integrity of Spill-Proof Spouts and Spill-Proof Systems (Date) and Air Resources Board Test Procedure TP-502, Test Procedure for Determining Diurnal Emissions from Portable Fuel Containers (Date) for containers and spouts, which are incorporated by reference herein.

2.5 Leakage

There shall be no fluid leakage from any point in the spill-proof system or spill-proof spout as specified in Air Resources Board Test Procedure TP-501, Test Procedure for Determining Integrity of Spill-Proof Spouts and Spill-Proof Systems (Date) and Air Resources Board Test Procedure TP-502, Test Procedure for Determining Diurnal Emissions from Portable Fuel Containers (Date), which are incorporated by reference herein.

2.6 Automatic Closure

The spill-proof system or spill-proof spout shall automatically close when the spill-proof spout is removed from the target tank, seal and remain completely closed when not dispensing fuel, as specified in Air Resources Board Test Procedure TP-501, Test Procedure for Determining Integrity of Spill-Proof Spouts and Spill-Proof Systems (Date), which is incorporated by reference herein. Also, no liquid, beyond wetted surfaces, shall be retained in the spill-proof spout after fueling that may evaporate into the atmosphere.

2.7 Warranty

- a) An applicant seeking an Executive Order pursuant to this article must warrant that its spill-proof system or spill-proof spout is free from defects in materials and workmanship that cause such systems or spill-proof

spouts to fail to conform with each of the certification and compliance standards specified in “CP-501, Certification Procedure for Portable Fuel Containers and Spill-Proof Spouts, adopted (Date)” for a period of one year from the date of sale.

- b) An applicant must supply a copy of the warranty language specified in section a) above in the packaging for each spill-proof system or spill-proof spout at the time of sale identifying the following minimum requirements:
 - 1) A statement of the terms and length of the warranty period;
 - 2) An unconditional statement that the spill-proof system or spill-proof spout is certified to California requirements; and
 - 3) A listing of the specific certification requirements or limitations to which it was certified.

2.8 Operating and Maintenance Instructions

An applicant must supply a copy of the operating instructions intended for each spill-proof system or spill-proof spout, and fueling application. These instructions shall include, at a minimum, the following specifications:

- a) The designed intent of the spill-proof system or spill-proof spout, and the types of equipment with which it may be used to refuel; and
- b) Other instructions, such as the recommended fueling angle(s) or special instructions such as venting prior to use.

2.9 Materials Compatibility with Fuels

Spill-proof systems, spill-proof spouts and all components incorporated therein, such as gaskets, seals, or O-rings must demonstrate compliance with the requirements of ASTM F-852-99 (March 10, 1999), and ASTM F-976-02 (May 10, 2002) which is incorporated by reference herein.

Applicants may request limited certification for use with only specified fuel blends. Such fuel-specific certifications shall clearly specify the limits and restrictions of the certification.

2.10 Optional Consumer Acceptance Program

An applicant may elect to participate in an optional consumer acceptance program for any or all of spill-proof systems or spill-proof spouts. Under this program, an applicant may supply a “consumer acceptance plan” as part of its certification program for consideration by the ARB Executive Officer. At a

minimum, a consumer acceptance plan must include the following minimum criteria:

- a) At least 10 persons will evaluate no more than 3 of the applicant's specific spill-proof systems or spill proof spouts;
- b) Each person must have only limited experience with said spill-proof systems or spill-proof spouts;
- c) Each person will be provided no more than 5 minutes to read the instructions provided with the spill-proof system or spill-proof spout, and to assemble the product for use;
- d) Each person shall fill an evaluation matrix of spill-proof systems or spill-proof spouts independently, out of view of other evaluators. The evaluation matrix, PFC Consumer Acceptance Matrix dated March 9, 2005 is attached.
- e) Each person must dispense liquid from a specific spill-proof system or spill-proof spout into the matrix tanks;
- f) After dispensing liquid from each specific spill-proof system or spill-proof spout, each person must document his or her opinion regarding the ease of use of said product on the evaluation matrix using a two category scoring system, not acceptable and acceptable; and
- g) A minimum score equivalent to 70% acceptable shall be authorized one consumer acceptance star. A minimum score equivalent to 80% acceptable shall be authorized two consumer acceptance stars. A minimum score equivalent to 90% acceptable shall be authorized three consumer acceptance stars. Any manufacturer that elects to add the words "think safety" on the container in minimum 34-point Arial font in Spanish shall be awarded 5 bonus points to the total consumer acceptance score.

The ARB Executive Officer may elect to conduct duplicate consumer acceptance testing to verify the results submitted by participating applicants and may modify these criteria.

**Table 2-1
Certification Requirements**

Performance Type	Requirement				Sec	Test Method
Openings	Minimum release of hydrocarbon vapors				2.1	
Color	Fuel	Gasoline	Diesel	Kerosene	2.2	
	Color	Red	Yellow	Blue		

Diurnal	≤ 0.4 grams per gallon-day, July 1, 2007 ≤ 0.3 grams per gallon-day, January 1, 2009	2.3	ARB TP-502
Durability	Spout and container durability	2.4	ARB TP-501& TP-502
Leakage	No leakage	2.5	ARB TP-501& TP-502
Automatic Closure	Spout automatically closes and seals when removed from tank	2.6	ARB TP-501
Warranty	One year warranty, packaging requirements	2.7	
Instructions Operating & maintenance	Equipment and fueling specific instructions	2.8	
Materials Compatibility with Fuels	Must be compatible with fuels	2.9	ASTM F-852, & F976
Optional Consumer Acceptance Program	Optional Consumer Acceptance Criteria	2.10	

3. SUBMITTING AN APPLICATION

An applicant must submit the following information in its application for certification:

- 3.1 Model number(s) and size(s) of spill-proof systems or spill-proof spouts for which certification is requested. The applicant must supply test data that demonstrates the spill-proof systems or spill-proof spouts comply with each of the certification requirements identified in Table 2-1.
- 3.2 Engineering drawings of the spill-proof system or spill-proof spout detailing dimensions specific to each component. If an application is submitted for a spill-proof system (i.e., container and spout), separate dimensioned drawings for the portable fuel container and for the spill-proof spout are required. If more than one type or size of portable fuel container or more than one type of spill-proof spout is included in the application, separate dimensioned drawings are required for each component.
- 3.3 A sample of the spill-proof system or spill-proof spout.
- 3.4 Test data from each of the test procedures specified in Air Resources Board Test Procedure TP-501, Test Procedure for Determining Integrity of Spill-Proof Spouts and Spill-Proof Systems (Date) and Air Resources Board Test

Procedure TP-502, Test Procedure for Determining Diurnal Emissions from Portable Fuel Containers (Date) demonstrating that the spill-proof system, spill-proof spout, or component meets the applicable criteria.

- 3.5** Any other test data that supports the requirements in 3.4 above and that would assist in the determination of certification.
- 3.6** The language, symbols, or patterns that will actually be permanently embossed on the spill-proof system or spill-proof spout. This shall include examples of date code wheels as well as all other permanent markings and their locations on the container and/or spill-proof spout. Once an executive order is issued for a spill-proof system or spill-proof spout, these permanent markings cannot be altered or modified in any way without first obtaining the approval of the ARB Executive Officer.
- 3.7** The language or label(s) that may be affixed to the spill-proof system or spill-proof spout at the time of sale.
- 3.8** The manufacturer's recommended instructions, instruction decals, or any other type of placard attached to the spill-proof system or spill-proof spout at the time of sale. Include examples of actual decals or placards if available. Proposed placards or decals are sufficient if actual samples are not available. Once an executive order is issued for a spill-proof system or spill-proof spout, these decals or placards cannot be altered or modified in any way without first obtaining the approval of the ARB Executive Officer.
- 3.9** The manufacturer warranty(s) as defined in section 2.7.
- 3.10** A description of the materials used in the construction of the spill-proof system or spill-proof spout. Material compositions of gaskets, O-rings and seals must be described.
- 3.11** If the applicant is not the manufacturer of all system components incorporated in a spill-proof system or spill-proof spout, the applicant must include evidence that the component manufacturer(s) have been notified of the applicant's intended use of the manufacturers' components in the spill-proof system or spill-proof spout for which the application is being made.
 - a) If the applicant is requesting inclusion of one or more components not manufactured by it on the applicable spill-proof system or spill-proof spout, the applicant shall notify the component manufacturer(s) and obtain the information required of the application as specified in section 3.1 through 3.11.
 - b) If the component(s) requested for inclusion in the certification have not been previously incorporated in a spill-proof system or spill-proof spout

that has been issued an executive order pursuant to these procedures, each of the component(s) shall be subject to each of the application and test requirements specified herein.

4. APPLICATION REVIEW AND ACCEPTANCE

- 4.1** If the application for certification contains all of the information required by these procedures, it will be deemed to be complete and will be processed for certification. The application shall not be deemed complete until each of the minimum requirements listed in this Certification Procedure is completed.
- 4.2** The Executive Officer may find it necessary to request additional information of the applicant in order to complete the application and/or evaluate specific spill-proof systems or spill-proof spouts.
- 4.3** Applications will be processed in accordance with the procedures and time periods set forth in 17 CCR section 60030 et seq. The time periods may be extended by the Executive Officer as deemed reasonable.
- 4.4** The application shall be signed by the applicant or by their authorized delegate.

5. ENGINEERING EVALUATION

The ARB Executive Officer shall evaluate each application for certification of a spill-proof system or spill-proof spout to determine if the spill-proof system or spill-proof spout complies with the criteria for issuance of an executive order.

- 5.1** Any spill-proof system or spill-proof spout that does not comply with the requirements of this Certification Procedure shall be denied certification, and the application shall be returned to the applicant with reason(s) for denial. ARB will not evaluate an applicant's re-submittal of a spill-proof system or spill-proof spout application for certification unless the applicant can demonstrate that it has addressed and/or corrected deficiencies identified by ARB during the initial evaluation. The applicant must supply a written notification to the Executive Officer to identify the deficiency(s) and remedy(s).
- 5.2** The spill-proof system or spill-proof spout certification requirements submitted by the applicant shall be reviewed to ensure that they conform to the certification requirements in Section 2 of this Procedure.
- 5.3** The procedures for, and results of, any bench test or operational test results contained in the application shall be reviewed to determine if such procedures comply with the required test methodology, and to ensure that the results comply with the certification requirements described in this Procedure.

6. ALTERNATE TEST AND INSPECTION PROCEDURES

Test procedures other than those specified in this Certification Procedure may be used only if prior written approval is obtained from the Executive Officer. For purposes of this procedure, a test procedure is a methodology used to determine, with a high degree of accuracy, precision, and reproducibility, the value of a specified parameter. Once the test procedure is utilized to generate test data, the results are compared to the applicable certification requirements.

- 6.1** An applicant may request advance ARB Executive Officer approval to utilize an alternative test procedure. This request shall describe the proposed alternative test procedure, including equipment specifications necessary to conduct the test. If training is required to properly perform a test, a proposed training program shall be included.
- 6.2** The Executive Officer shall respond within sixty (60) days of receipt of a request and indicate that a formal response will be sent within one hundred twenty (120) days. This time period will allow for a detailed analysis of the proposed test procedure. If the Executive Officer determines that he or she cannot adequately evaluate the request within the specified time periods, he or she shall notify the applicant of said determination along with a projected date that a decision will be made.
- 6.3** All testing to determine the acceptability of the procedure shall be conducted by ARB staff, or by an independent test laboratory under the direction of ARB. Testing shall be conducted in accordance with good engineering judgement.
- 6.4** Test Procedure approval shall be granted on a case-by-case basis, only after all necessary comparison testing has been conducted. Because of the evolving nature of technology and test procedures, such approval may or may not be granted in subsequent cases without a new request for approval and additional testing to determine equivalency. If, after approval is granted, subsequent information demonstrates that equivalency between the two methods no longer meet the USEPA Method 301 requirements (Date), which is incorporated by reference herein, the Executive Officer may revoke the alternate status of the procedure.
- 6.5** Any approvals to use alternate test procedures, and the supporting evaluation test results shall be maintained by the Executive Officer.