

California Environmental Protection Agency



**Small Off-Road Engine Evaporative Emission Control System
Certification Procedure**

CP--902

**Certification ~~And Approval~~ Procedure for Evaporative Emission
Control Systems on Engines With Displacement Greater Than 80
Cubic Centimeters**

Adopted: July 26, 2004
Amended: September 18, 2017

(Note: Set forth are the amendments to the existing regulatory language. The amendments are shown in underline to indicate additions and ~~strikeout~~ to indicate deletions from the existing regulatory text.)

**CP-902
TABLE OF CONTENTS**

Section	Page
1. GENERAL INFORMATION AND APPLICABILITY	1
1.1 Requirement to Comply with Applicable Codes and Regulations	1
2. PERFORMANCE <u>EVAPORATIVE EMISSION</u> STANDARDS, SPECIFICATIONS, AND DESIGN STANDARDS	1
2.1 Performance Standards	2
2.2 Performance Specifications	2
2.3 Design Requirements	2
3. OPTIONAL PERFORMANCE <u>EVAPORATIVE EMISSION</u> STANDARDS	2
4. CERTIFICATION OVERVIEW	2
4.1 <u>Summary</u>	3
5. CERTIFICATION OF ENGINES AND EQUIPMENT	6
5.1 Certification Process	6
5.24.2 Certification Responsibilities	7
5.34.3 Certification Testing	7
5.44.4 Data Carryover and Carryacross	7
6. CERTIFICATION OF EVAPORATIVE EMISSION CONTROL SYSTEMS	7
6.1 Certification Options	8
6.2 Evaporative Emission Control System Modifications	8
7.5. GENERAL INSTRUCTIONS – <u>EVAPORATIVE EMISSION CONTROL SYSTEM CERTIFICATION</u>	8
7.5.1 Where To Submit Applications For Certification	9
7.5.2 Letter of Intent (LOI)	9
7.3 Cover Letter	10
7.45.3 Equipment <u>Emission</u> Labeling	10
7.55.4 Engineering Description of Evaporative Emission <u>Control</u> System	10
7.6 Certification Summary Sheet (A sample is provided as Attachment 2)	11
7.7 Certification Database Form (A sample is provided as Attachment 3)	11
7.85.5 Emission Warranty	11
7.95.6 Test Procedures	11
7.105.7 Modified Test Procedures	11
7.115.8 Adjustable Parameters and Anti-Tampering Devices	11

7.125.9	Certification Test Fuels	12
7.135.10	Amendments to the Application	12
7.145.11	Running Changes and Field-Fixes	13
7.155.12	Confidentiality	13
7.165.13	Summary of Certification Process	13
5.14	<u>Submission of an engine or equipment unit</u>	14
86.	APPLICATION FORMAT INSTRUCTIONS	14
97.	DOCUMENTATION OF CERTIFICATION	16
10.	CONDITIONS OF CERTIFICATION	17
10.1	Duration of System Certification	17
10.2	Performance Monitoring	17
11.	APPROVAL OF APPLICATION FOR CERTIFICATION	17
	References	12
Attachment		Page
1	SORE Evaporative Family Classification Criteria	19
2	Certification Summary Sheet	14
3	Certification Database Form (Supplementary Information)	16
FIGURE		
1	Certification Process Diagram	4

**California Environmental Protection Agency
Air Resources Board**

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CP-902

**Certification and Approval Procedure for Evaporative Emission Control Systems
on Engines With Displacement Greater Than 80 Cubic Centimeters**

A set of definitions common to all Certification and Test Procedures are in Title 13, California Code of Regulations (CCR), Section 2752 et seq.

For the purpose of this procedure, the term "ARB" refers to the California Air Resources Board, and the term "Executive Officer" refers to the ARB Executive Officer, or his or her authorized representative or designate.

1. GENERAL INFORMATION AND APPLICABILITY

This document describes the procedures for evaluating and certifying evaporative emission control systems on small off-road engines > 80 cc or equipment that use small off-road engines > 80 cc. By definition, evaporative emission control systems are fuel system components that are designed to reduce evaporative and permeation emissions. Fuel system components may include fuel tanks, fuel lines and any or all associated fittings, mechanisms to control fuel tank venting, tethered fuel caps, and any other equipment, components, or technology necessary for the control of evaporative and permeation emissions.

~~These~~This Certification Procedures, CP-902, are proposed pursuant to Section 43824 of the California Health and Safety Code (CH&SC) and describes the process required to certify evaporative emission control systems on small off-road engines (SORE) or equipment that use small off-road engines to evaporative emission performance standards. Small off-road engines are defined in Title 13, California Code of Regulations (CCR), Section 2401 et seq.

1.1 Requirement to Comply with Applicable Codes and Regulations

Certification of any evaporative emission control system by the Executive Officer does not exempt the same from compliance with other applicable codes and regulations such as state and federal safety codes and regulations.

**2. PERFORMANCE EVAPORATIVE EMISSION STANDARDS, SPECIFICATIONS,
AND DESIGN STANDARDS**

2.1 Performance Standards

A performance standard defines the minimum performance requirements for certification of an evaporative emission control system, including any or all associated components. Compliance with all applicable performance standards must be demonstrated in order to obtain certification as described in these procedures. Title 13, CCR, Section 2754 identifies the performance standards and the affected model years.

2.2 Performance Specifications

A performance specification is an engineering requirement that relates to the proper operation of a specific system or component used in a small off-road engine evaporative emission control system. Performance specifications shall be identified in the application for certification. Compliance with the minimum level of performance specifications identified herein must be demonstrated in the application for certification and specified in the certification Executive Orders. The performance specification to which a system or component is certified shall be the minimum allowable level of performance the evaporative emission control system is required to meet.

2.3 Design Requirements

A design requirement is an engineering specification that sets the minimum performance requirement for a component. Setting design requirements for specific evaporative emission control system components is intended to control evaporative emissions from complete engines or equipment.

The diurnal emission and design standards for small off-road engines with displacement greater than 80 cc are specified in title 13, Cal. Code Regs., section 2754.

3. **OPTIONAL PERFORMANCE EVAPORATIVE EMISSION STANDARDS**

Optional performance evaporative emission standards are emission targets that are more stringent than the normal performance evaporative emission standards. Manufacturers that certify to these optional standards are allowed to affix a unique label to their engines or equipment that identifies them as low polluting. Title 13, CCR Cal. Code Regs., Section 2757 identifies the optional performance evaporative emission standards.

4. **CERTIFICATION OVERVIEW**

4.1 Summary

For certification purposes, small off-road engines (SORE) are grouped into three categories. The first category includes all walk-behind mowers with displacements greater than 80 cc to less than 225 cc. The second includes all other SI-engines with displacements greater than 80 cc to less than 225 cc. The third and final category includes SI-engines with displacements greater than or equal to 225 cc. Executive Orders certifying the evaporative emission control system on engines or equipment are valid for only one model-year of production. New Executive Orders in each subsequent model year must be obtained for each evaporative family from ARB for any small off-road engine or equipment subject to any of the performance standards or design requirements prescribed herein.

Evaporative emission control systems may be grouped into evaporative families for certification and other implementation purposes (e.g., testing, recall). An evaporative family includes engine or equipment models that share similar fuel systems, engine designs, and evaporative emission control features such that the equipment can be expected to exhibit similar evaporative diurnal emission characteristics rates. Attachment 1 of ~~these~~this procedures defines the classification criteria and codes for determining evaporative families. Any engine certified as a complete (both exhaust and evaporative emissions) unit can be certified using one common exhaust and evaporative family name. At the ~~manufacturers~~applicant's option, the two letters identifying the evaporative control system can be part of the family name or be placed elsewhere on the emission label.

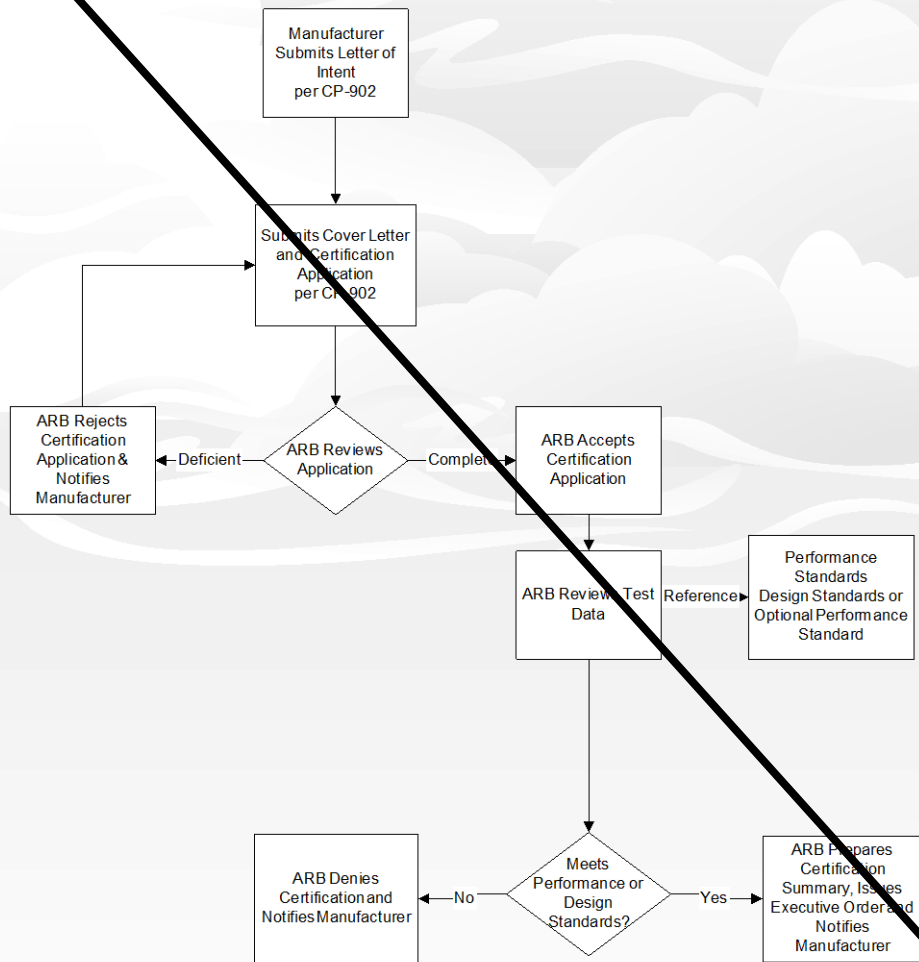
~~Manufacturers~~Applicants that certify evaporative emission control systems under ~~these~~this procedures ~~are required to~~shall submit all test results from all emissions-related tests performed on the units tested for certification, including test results from invalid tests or from any other tests, whether or not they were conducted according to TP-901, TP-902, or SAE J1737 (Stabilized May 2013), SAE J30, SAE J1527, or SAE J2996 data that documents compliance with the applicable diurnal evaporative emission standard. ~~Manufacturers~~Applicants certifying to diurnal ~~evaporative~~ evaporative emission standards must test a minimum of one engine model or equipment for every evaporative family for which certification is requested or submit test results or Executive Order numbers for the fuel tank, fuel lines, and carbon canister. The engine or equipment model selected for testing must be of a configuration that is expected to yield the highest evaporative diurnal emissions rate relative to the applicable diurnal emission standard within an evaporative family, and shall contain a complete and functional evaporative emission control system. The evaporative emission control system shall include all emission control systems and components that are specified in the certification application. The test procedures used to determine compliance with applicable diurnal ~~evaporative~~ evaporative emission standards ~~are described in~~is TP-902, “Test Procedure for Determining Diurnal Evaporative Emissions from Small Off-Road Engines”.

~~Manufacturers certifying to the design standards in 13 CCR Section 2754(b) must provide test data for each component on the test engine or equipment selected for each evaporative family. Alternatively, manufacturers can submit the Executive Order number approving the component per 13 CCR section 2767.1 in lieu of component test data. Evaporative system components on the test engine or equipment must be tested per the applicable test procedure. The model year test engine or equipment selected for testing must be of a configuration that is expected to yield the highest evaporative emissions within an evaporative family.~~

Figure I provides a graphic overview of the certification process.

Figure 1

Evaporative Emission Control System Certification Process



~~5. CERTIFICATION OF ENGINES AND EQUIPMENT~~

~~5.1 Certification Process~~

~~5.1.1 Certifying Emission-Compliant Engines and/or Equipment to 13 CCR Section 2754: For each evaporative family, the manufacturer must select and test a certification engine or equipment. The certification engine or equipment must contain a complete and functional evaporative emission control system. The system shall include all emission control systems and components that are specified in the certification application. The official certification engine or equipment is one that has been selected and stabilized as to show compliance with the appropriate diurnal evaporative emission performance standard. In addition, the evaporative family test engine or equipment shall be selected such that the evaporative emission control system is expected to exhibit worst-case emissions, (e.g., highest diurnal evaporative emissions) of all engines or equipment within the evaporative family.~~

~~Manufacturers certifying to the design standards in 13 CCR Section 2754(b) must provide test data for the fuel line permeation, fuel tank permeation, and canister on the test engine or equipment selected for each evaporative family. Evaporative system components on the test engine or equipment must be tested per the applicable test procedure. Alternatively, manufacturers can submit the Executive Order number approving the component per 13 CCR section 2767.1 in lieu of component test data.~~

The ARB may direct the ~~manufacturer~~an applicant to conduct a retest if the original test results indicate marginal (within 5% of the standard) compliance. The retest must be performed on the same engine and/or equipment that generated the original test results. The retest may be performed omitting the preconditioning and durability portions of the test procedure if the test engine or equipment has continuously contained fuel subsequent to the original test. Any anti-tampering devices that will be installed on production engines for protection against unauthorized adjustments of emission-related adjustable parameters must be approved by ARB. The ~~manufacturer's~~ format for the certification label and the location where the label is affixed to the production engine must be approved by the ARB. The ~~manufacturer's~~applicant's emission warranty statement provided with each production engine must also be approved by ARB.

~~5.1.2 Application for Certification: For each evaporative family, the ~~manufacturer~~ applicant must submit to ARB an application for certification containing all the required information and/or test data in the ARB-specified format. The ARB is required to approve or disapprove an application within 90 days after receipt of the complete application. ~~The normal processing time is about 4-~~~~

~~6 weeks. To expedite the certification approval, requests for ARB approval of anti-tampering devices, labels, the emission warranty statement, and any modification to the test procedure should be submitted in advance of the application.~~

5.24.2 Certification Responsibilities

~~Under these~~this procedures, ~~manufacturers are~~an applicant is required to obtain ARB certification for evaporative emission control systems on small off-road engines or equipment that use small off-road engines. ~~Manufacturers~~Those applying for certification are held liable for complying with all of ARB's certification and emission warranty requirements.

5.34.3 Certification Testing

~~Prior to the time of production, an evaporative family test engine or equipment is durability tested and preconditioned as specified in TP-902 to stabilize the evaporative and permeation emissions. An emission test is then conducted using~~Diurnal emission testing shall be conducted according to TP-902 and the results submitted to ARB as part of the certification application. If, after review of the application for certification including all test data submitted by the ~~manufacturer~~applicant, and any other pertinent data or information the Executive Officer determines is necessary, the Executive Officer determines that the application has satisfied the conditions set forth in these procedures, the Executive Officer may approve the application and issue an Executive Order.

5.44.4 Data Carryover and Carryacross

~~Subject to approval by the Executive Officer, certification test data of an evaporative family test engine or equipment may be carried over, in lieu of new tests, to subsequent evaporative families in following model years, provided there have been no changes to the evaporative emission control system or to any evaporative emission control system component(s). Emissions data for one evaporative family may not be used to certify another evaporative family. Also, subject to ARB approval, the certification test data of an evaporative family certification engine or equipment may be carried across, in lieu of new tests, to a different evaporative family in the same model year if the manufacturer adequately demonstrates to the satisfaction of the ARB that the emission data is representative of the new evaporative family.~~

~~6. CERTIFICATION OF EVAPORATIVE EMISSION CONTROL SYSTEMS~~

6.1—Certification Options

~~There are two options for certifying evaporative emission control systems. They are:~~

~~Option one allows an engine manufacturer to certify a complete evaporative emission control system installed on a small off-road engine.~~

~~Option two allows an equipment manufacturer to certify a complete evaporative emission control system installed on equipment that uses a small off-road engine.~~

~~Option one is intended for engine manufacturers that sell engines with complete evaporative emission control systems.~~

~~Option two is intended for equipment manufacturers that purchase engines without evaporative emission control systems. In this case, equipment manufacturers independently install and certify complete evaporative emission control systems on equipment they intend to sell.~~

6.2—Evaporative Emission Control System Modifications

~~The evaporative emission control system components used to certify the system are defined as nominal components. Modification to the evaporative emission control system's fuel tank and/or fuel line is allowed without affecting the original certification of the engine or equipment only in cases where the fuel tank and/or fuel line are equivalent to the nominal fuel tank and/or fuel line, or as approved by the Executive Officer.~~

75. GENERAL INSTRUCTIONS – EVAPORATIVE EMISSION CONTROL SYSTEM CERTIFICATION

These instructions provide guidance regarding the preparation, submission and revision of small off-road engine evaporative emission control system certification applications for 2007 and subsequent model year small off-road engines with displacement greater than 80 cc. Only information essential for certification is required in this format. Other information required by the test procedures (e.g., test equipment build records, test and maintenance records, etc.) must be maintained by the manufacturer applicant and made available to the ARB within **30 days** upon request. An application submitted in accordance with these instructions would enable an expedited review and approval by the ARB. ~~Manufacturers must submit all revisions to the application to the ARB for approval.~~—This Section covers the following subject matter:

- Where To Submit Applications for Certification
- Letter of Intent (LOI)
- Cover Letter

- ~~Engine~~Emission Labeling
- Engineering Description of Evaporative Emission System
- Certification Summary Sheet
- ~~Certification Database Form (Paper and/or electronic copies)~~
- Emission Warranty
- Test Procedures
- Modified Test Procedures
- ~~Nominal Fuel Tank and/or Fuel Line (if applicable)~~
- Adjustable Parameters and Anti-Tampering Devices
- Certification Test Fuels
- Amendments to the Application
- Running Changes and Field Fixes
- Confidentiality
- Summary of Certification Process
- Submission of an engine or equipment unit

75.1 ~~Where To~~ Submit Applications For Certification

Unless otherwise specified by the Executive Officer, All certification-related applications and correspondence should~~sho~~ll be forwarded to:

Mobile Source Operations~~Emissions Compliance, Automotive Regulations and Science~~ Division
 Air Resources Board
 9480 Telstar Avenue, Suite 4
 El Monte, California 91731-2988
 Attn: Division Chief

75.2 Letter of Intent ~~(LOI)~~

~~ARB staff uses the information provided in the LOI to plan ahead for the certification year and to resolve issues in advance so that manufacturers' anticipated certification schedules can be met. A LOI should be submitted to the ARB at least 30 days prior to the first application for certification for the model year. The LOI should list planned evaporative families and the projected dates when the applications will be submitted. The manufacturer's phase-in compliance plan for the Model Year should also be included in the LOI. Any certification or testing issues that could delay the certification process of any evaporative family may be included in the LOI. Any updates to the manufacturer's certification plan should be submitted in a timely manner. An applicant shall submit a Letter of Intent (LOI) prior to the initial model year submission of the applicant's certification application(s) indicating the applicant's intent to seek evaporative emission control system certification. Such LOI shall list the evaporative families for which the applicant will apply for certification and the date of expected submission for each application. An applicant's LOI for evaporative emission control systems may be combined with~~

that required in *California Exhaust Emission Standards and Test Procedures for New 2013 and Later Small Off Road Engines; Engine-Testing Procedures (Part 1054)*, adopted October 25, 2012.

~~7.3~~ Cover Letter

~~A cover letter, signed by the manufacturer's authorized representative, must accompany each evaporative family application. The cover letter should recap highlights about the evaporative family, such as its new or carry-over test data status, the use of a new emission control technology, the use of a modified test procedure, or the anticipated start date of production. The cover letter can combine cover letter information and submission with exhaust certification. The following statements of compliance must be provided in the letter:~~

~~Conformance with the general standards regarding an increase in emissions and unsafe conditions as required by Section 5 of the "California Exhaust Emission Standards and Test Procedures for 1995 and Later Small Off Road Engines", adopted March 20, 1992, and amended March 26, 1998.~~

~~Conformance with the specifications for the emission control label per 13 CCR, Section 2759.~~

~~7.45.3~~ Equipment Emission Labeling

~~The evaporative emission certification label is an important ARB requirement for identifying certified and legal equipment from those uncertified. The labels are used to assist enforcement activities. The evaporative emission certification label may be integrated with the exhaust emission label and must include an unconditional statement of conformance with applicable standards. Labeling requirements are specified in 13 CCR, Section 2759.~~

~~Manufacturers are required to submit samples of the evaporative emission certification labels (or drawings) for each evaporative family to ARB for review and approval of the format, content and placement location. The ARB retains the right to request actual labels on a case by case basis. The proposed location(s) must be shown by either a drawing or photograph. Detailed written explanations of the label locations are also acceptable. Label samples and proposed label locations may be submitted to ARB for approval in advance of the actual certification application to prevent any certification delay.~~

An evaporative emission control system label meeting the requirements of title 13, Cal. Code Regs., section 2759 shall be included in an application for certification.

~~7.55.4~~ Engineering Description of Evaporative Emission Control System

An engineering description of the technology used to control evaporative emissions shall be included in an application for certification. The description ~~should~~shall include the method used to control running loss emissions.

~~7.6 Certification Summary Sheet (A sample is provided as Attachment 2)~~

~~7.7 Certification Database Form (A sample is provided as Attachment 3)~~

~~7.8~~5.5 Emission Warranty

A copy of the ~~manufacturer's~~applicant's emission warranty statement for the small off-road engine evaporative emission control system and/or components must be submitted for ARB review and approval. The warranty requirements and statement are specified in title 13, Cal. Code Regs. CCR, §sections 2760 and 2764, respectively.

~~7.9~~5.6 Test Procedures

The test procedures used to determine compliance with the ~~Performance Standards, or Design Standards, including equipment provisions and emission test procedures,~~ are specified in evaporative emission standards are SAE J1737 (Stabilized May 2013), SAE J30, SAE J1527, or, only for fuel lines with inner diameter 4.75 mm or less, SAE J2996, TP-901, Test Procedure for Determining Permeation Emissions from Small Off-Road Engine, adopted July 26, 2004, and TP-902, Test Procedure for Determining Diurnal Evaporative Emissions from Small Off-Road Engines, adopted July 26, 2004, and in 13 CCR section 2752(a)(6).

~~7.10~~5.7 Modified Test Procedures

Any modifications to the prescribed test equipment and/or test procedures due to unique engine or equipment designs, laboratory equipment arrangements, facility limitations, etc. must be approved in advance by the Executive Officer and described in the certification application. Alternative test procedure approval shall be granted on a case-by-case basis, only after all necessary comparison testing has been conducted. The applicant shall demonstrate equivalency between the reference test procedure and the proposed alternative test procedure according to the procedure in "Method 301 – Field Validation of Pollutant Measurement Methods from Various Waste Media," which is in Appendix A to 40 CFR Part 63 and is incorporated by reference herein. The use of unapproved test equipment or procedures may result in rejection of generated test data by the Executive Officer.

~~7.11~~5.8 Adjustable Parameters and Anti-Tampering Devices

An applicant~~manufacturer~~ shall utilize good engineering practice to prevent

unauthorized or in-use adjustments of any adjustable parameter of an evaporative emission control system. These may include the use of anti-tampering devices. Samples of a manufacturer's proposed anti-tampering measure to prevent unauthorized or in-use adjustments or other such devices, ~~should~~shall be submitted in advance of the application to ARB for approval. In-use adjustments of adjustable parameters of an evaporative emission control system are allowed if the adjustments do not invalidate a system's compliance. All adjustable parameters and the corresponding ARB approval number must be reported in the application. If the parameter or method of tamper-resistance is subsequently modified, a new ARB approval will be required.

7.125.9 Certification Test Fuels

The fuel for emission testing must meet the specifications in the test procedures and title 13, Cal. Code Regs., section 2754 ~~to reduce emission variations~~. Testing with unauthorized fuel will result in rejection of the test results. ~~The allowable test fuels are the same as the allowable test fuels for on road cars and light duty vehicles (Reference 3). The test fuel specifications are listed here for manufacturer's convenience.~~

~~Gasoline. Two test fuels are allowed:~~

- ~~(i) Indolene Clear. This certification gasoline is specified in the Code of Federal Regulations, Title 40, Part 86, Section 113-94(a)(1). [40 CFR 86.113-94(a)(1)].~~
- ~~(ii) California Phase 2 Gasoline (Cleaner Burning Gasoline). The specifications of this certification gasoline are provided in "California Exhaust Emission Standards and Test Procedures For 2001 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles", (Reference #3, Part II, Section 100.3.1). This gasoline may be used as an option to Indolene Clear.~~

7.135.10 Amendments to the Application

Any revisions to an application due to typographical errors, corrections, running changes or field fixes, new test data, or additional information must be submitted to ARB. If the changes affect the Certification Summary ~~evaporative emissions of the evaporative family~~, the entire application ~~or only those pages affected~~ shall be resubmitted to ARB. For the other parts of the application, only the revised information on the affected application pages must be submitted, together with the following for identification purposes as applicable:

- ~~Manufacturer~~Applicant or Holder Name
- Model ~~Y~~year
- Evaporative ~~F~~family

- Engine Family
- Process Code (e.g., correction, running change)
- Engine Displacement
- Comments Field (describing the update or change)
- The fields that have been changed or corrected.

7.445.11 Running Changes and Field-Fixes

Any factory change to an evaporative family during the model-year production that could potentially affect the evaporative emissions must be approved by ARB via a ~~manufacturer's submitted~~ running change request in a revised certification application. In addition, any post assembly line change that could potentially affect the evaporative emissions (e.g., at factory warehouses, distribution centers, dealers) must be approved by ARB via a ~~manufacturer's submitted~~ field fix request in a revised certification application; a field fix request typically occurs after the model-year production has ended. Running changes and field fixes not approved by ARB will ~~render an affected evaporative family uncertified~~ invalidate the certification of any affected evaporative family and subject the ~~manufacturer~~ Holder to ARB enforcement actions. If the change affects an emission-related part or results in a new model in the evaporative family exhibiting the highest diurnal emission rate relative to the applicable diurnal emission standard test engine or equipment, new test data and engineering evaluations ~~will be required~~ shall be submitted in a revised certification application to demonstrate that the evaporative family will remain in compliance ~~and a new certification application must be submitted~~. If the change does not result in a new model in the evaporative family exhibiting the highest diurnal emission rate relative to the applicable diurnal emission standard test engine or equipment, only the affected pages and information fields of the certification application need to be submitted.

7.455.12 Confidentiality

Any ~~other~~ information that is designated by the ~~manufacturer~~ applicant as confidential ~~shall be handled in accordance with the procedures specified in title 17, Cal. Code Regs., sections 91000-91022.~~ may not receive automatic treatment for confidentiality unless the manufacturer can justify that the information is truly privileged, confidential business information. California guidelines (Sections 91000-91002, Title 17, California Code of Regulations, and Health and Safety Code Section 39660(e)) will be followed in the handling of confidential information.

7.465.13 Summary of Certification Process

The applicant shall prepare a summary of the certification process for each certified evaporative family. It shall contain documentation of the successful completion of all applicable portions of the requirements contained in this

Certification Procedure including but not limited to the following:

- All problems encountered throughout the certification process,
- The types of testing performed, and
- The frequency and/or duration of any testing, as appropriate.

Any other pertinent information about the evaluation process shall be contained in the summary.

5.14 Submission of an engine or equipment unit

Upon the request of the Executive Officer, an applicant shall submit for inspection or testing an engine or equipment unit from an evaporative family with the certification application, when available.

86. APPLICATION FORMAT INSTRUCTIONS

~~For information regarding the format of the certification application please see Attachment 2.~~

An application for certification shall contain the following information:

- Application type (e.g., new, running change)
- Model year
- Full corporate name of the applicant
- U.S. EPA-assigned manufacturer code
- Engine family name
- Evaporative family name
- Applicant contact information
 - Name
 - Title
 - Company name
 - Address
 - Phone number
 - Fax number
 - Email address
- Production plant contact information
 - Name
 - Title
 - Company name
 - Address
 - Phone number
 - Fax number
 - Email address
- Projected model year production volume in California

- Projected model year production volume in U.S.
- Proof the applicant has met the bond requirements of title 13, Cal. Code Regs., section 2774
- Date of expected introduction into California commerce
 - All results from all emissions-related tests performed on the units tested for certification, including test results from invalid tests or from any other tests, whether or not they were conducted according to TP-901, TP-902, or SAE J1737 (Stabilized May 2013), SAE J30, SAE J1527, or SAE J2996. The Executive Officer may require an applicant to send other information to confirm that testing according to TP-901, TP-902, or SAE J1737 (Stabilized May 2013), SAE J30, SAE J1527, or SAE J2996, as applicable, was valid.
- Description of any special test equipment
- List of equipment types in the evaporative family
- Description of each engine and equipment model in the evaporative family
 - Model number
 - Fuel cap information
 - Model number
 - Description of fuel tank tether
 - Description of indication of establishment of vapor seal
 - Innovative Product approval, if applicable
 - Description of each fuel tank model in the evaporative family
 - Model number
 - Total capacity (L)
 - Nominal capacity (L)
 - Internal surface area (m²)
 - Executive Order number, if applicable, or the following:
 - Tank materials, including pigments, plasticizers, UV inhibitors, or other additives that are expected to affect control of emissions
 - Gasket material
 - Production method
 - Permeation barrier
 - Engineering drawings (may be simplified)
 - Description of each fuel line model in the evaporative family
 - Model number
 - Diameter (mm)
 - Length (mm)
 - Executive Order number, if applicable, or the following:
 - Materials and methods used to construct the line
 - Permeation barrier
 - Engineering drawings
 - Description of each carbon canister model in the evaporative family
 - Innovative Product approval or Executive Order number, if applicable, or the following:
 - Model number
 - Nominal capacity (mL)

- Butane working capacity (g)
- Maximum fuel tank nominal capacity to be used with each canister
- Type of carbon
- Recommended purge rate
- Engine or equipment unit volume (m³), accurate to at least 3 significant figures, as sold to an ultimate purchaser
 - If unknown, list as zero
- Engine Class
- Fuel system type (e.g., carburetor, fuel injection)
- EMEL, if applicable
- Emission label or approval number
- Emission warranty statement or approval number
- List of evaporative emission warranty parts
- Description of changes to emission label or emission warranty
- Description of evaporative emission control system
- Description of criteria used to determine which models in the evaporative family exhibit the highest diurnal emission rates relative to the applicable diurnal emission standards
- Description of any Quality Assurance/Quality Control (QA/QC) protocols used by the applicant to ensure production evaporative emission control systems and their components in the evaporative family comply with the applicable emission standards throughout their useful life

97. DOCUMENTATION OF CERTIFICATION

Documentation of certification shall be in the form of an Executive Order.

The certification Executive Order shall include, at a minimum, the following items.

- A list of equipment types in the evaporative family
- A list of approved engines or equipment model(s) underin the evaporative family.
- A list of components certified for use with the evaporative family including component specifications.
- Applicable Performanceevaporative emission Standards, Performance Specifications, Design Standards, and Test Procedures.
- Applicable Operating Parameters and Limitations.
- Highest tested diurnal emission rate (g organic material hydrocarbon equivalent·day⁻¹) of the unit tested for certification, if applicable.
- Highest tested final permeation rate (g ROG·m⁻²·day⁻¹) of the fuel tank samples tested for certification, as calculated in section 14 of TP-901, if applicable.
- Highest tested permeation rate (g ROG·m⁻²·day⁻¹) of the fuel line samples tested for certification, as calculated in SAE J1737 (Stabilized May 2013), SAE J30, SAE J1527, or SAE J2996, if applicable.
- Working capacity (g organic material hydrocarbon equivalent) of the carbon

- canister as measured in Attachment 1 to TP-902.
- Warranty period(s).
- Factory testing requirements, if applicable.

~~10. CONDITIONS OF CERTIFICATION~~

~~Evaporative family certifications shall specify the duration and conditions by which the certification is issued and include a list of all engine or equipment models covered by the certification.~~

~~10.1 Duration of System Certification~~

~~Evaporative families shall be certified for a period of one model-year.~~

~~10.2 Performance Monitoring~~

~~During the certification period, any deficiencies identified through complaint investigations, certification or compliance tests, etc., shall be noted in the performance section of the certification file and brought to the attention of the engine or equipment manufacturer. If the deficiencies result in emissions in excess of the applicable standard, the manufacturer may be subject to remedial actions that are accepted and approved by ARB.~~

~~11. APPROVAL OF APPLICATION FOR CERTIFICATION~~

~~The Executive Officer shall certify only those evaporative families that can be expected to comply with the performance standards.~~

~~After a review of the complete application for certification and any other information that the Executive Officer requires, the Executive Officer will approve the application for certification if all the foregoing conditions are satisfied.~~

REFERENCES

1. Title 13, California Code of Regulations, (13 CCR) Section 2400.
2. 13 CCR, Sections 2401 and 2752.
3. California Exhaust Emission Standards and Test Procedures For 2001 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles, California Environmental Protection Agency, Air Resources Board, El Monte CA, 2000.
4. California Exhaust Emission Standards and Test Procedures for 1995 and Later Small Off-Road Engines, California Environmental Protection Agency, Air Resources Board, El Monte CA, 1998.
5. Test Procedure for Determining Permeation Emissions from Small Off-Road Engine Equipment Fuel Tanks, TP-901, California Environmental Protection Agency, Air Resources Board, Sacramento, CA, 2003.
6. Test Procedure for Determining Diurnal Evaporative Emissions from Small Off-Road Engines, TP-902, California Environmental Protection Agency, Air Resources Board, Sacramento, CA, 2003.
7. SAE J1737, Test Procedure to Determine Hydrocarbon Losses from Fuel Tubes, Hoses, Fittings, and Fuel Line Assemblies by Recirculation, Issued August 1997
8. Title 40, Code of Federal Regulations, Part 86

Attachment 1
SORE Evaporative Family Classification Criteria

Venting Control		Tank Barrier	
<u>Type</u>	<u>Code</u>	<u>Type</u>	<u>Code</u>
Canister	C	Metal	M
Sealed Tank	S	Treated HDPE or PE	P
		Coextruded Selar	C L
		Nylon	N
		Acetal	A
Other	O	Other	O

An applicant must group their engine and equipment models into one or more evaporative families based on the above criteria and coding.

For example:

A 2006 model year mower with the following characteristics:

- sealed tank venting control system
- fluorinated HDPE fuel tank

The evaporative family code would begin with the U.S. EPA-assigned three-character manufacturer code and include "SP". Additional alphanumeric characters may be added to the evaporative family code as necessary to distinguish between evaporative families using the same venting control and fuel tank barrier type.

An equipment manufacturer/Holder must list all the models of engines and equipment they produce into distinct evaporative families. Engine and Equipment models falling under a particular evaporative family code may be certified or approved with one application.

**Attachment 2
SMALL OFF-ROAD EQUIPMENT CERTIFICATION
Certification Summary Sheet**

Model Year: _____ **Application Type:** _____

Manufacturer: _____ **Executive Order:** _____

Evaporative Family Name: _____

Engine families within the evaporative family above: _____

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Certification for Diurnal Emissions:

a) New Testing? _____ if carry over/carry across, from evaporative family: _____

b) Test Engine or Equipment Model: _____ Test Equipment ID: _____

c) Test Fuel: _____

d) Running Loss Vented Emissions Controlled (yes/no): _____

e) Test Procedure: _____

f) Declared Evaporative Family Emissions Limit Differential (EFELD) in grams HC/day: _____

Special Test Equipment

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For Systems Certified to Performance Standards

Test No. And Type (Certification CTG or Confirmatory RTG)	Official 24-Hour Diurnal Test Results, g/day	
	Certification Test Result (g/day)	Standard (g/day)

For Systems Certified by Design

	Official Design Declaration	
	Measured Design Value or Executive Order Number	Regulatory Design Requirement
Fuel Hose Permeation		
Fuel Tank Permeation		
Carbon Canister Butane Working Capacity		

Remarks:

Equipment Types e.g. Walk-Behind Mowers, Lawn Tractors etc.:

Processed By: Date Processed Reviewed By: Date Reviewed:

S11. LABELING:

Evaporative emission label format approved? No ___ Yes ___ If yes, reference approval: _____

Sample label attached? No ___ Yes (put label in #S13) _____

S12. WARRANTY: Evaporative emission warranty approved? No ___ (Provide full warranty statement in #S15)

Yes ___ (Reference approval: _____)

Have any changes been made since the last approval? No ___ Yes ___ If yes, provide an explanation of the changes:

S13. EVAPORATIVE EMISSION LABEL INFORMATION

S14. ADJUSTABLE PARAMETERS AND ANTI-TAMPERING MEASURES

Parameter	Adjustable Range (or N/A)	Tamper Resistance Method (or N/A)	Approval Reference

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S15. EVAPORATIVE EMISSION WARRANTY STATEMENT

A large, empty rectangular box with a thin black border, occupying most of the page. It is intended for the user to provide the evaporative emission warranty statement.

S16. ADDITIONAL INFORMATION AND COMMENTS