

United States General Accounting Office

Report to the Chairman, Subcommittee on Energy and Power, Committee on Energy and Commerce, House of Representatives

January 1989

GASOLINE MARKETING

States' Programs for Pump Labeling of Gasoline Ingredients

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GAO	United States General Accounting Office Washington, D.C. 20548	
	Resources, Community, and Economic Development Division	
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۰	January 12, 1989	
	The Honorable Philip R. Sharp Chairman, Subcommittee on Energy and Power	
	Committee on Energy and Commerce House of Representatives	
	Dear Mr. Chairman:	
	Pursuant to your request and subsequent discussions with your office, we obtained information concerning states' gasoline pump labeling prac- tices and state officials' views on whether a uniform nationwide label for gasoline ingredients would be beneficial. You asked for this informa- tion because the Subcommittee wanted to determine whether a need existed for a federal uniform pump label listing gasoline ingredients. The information in this report is based solely on the responses to a ques- tionnaire that we prepared and sent to 56 state officials. ¹ We provided this information in testimony before your Subcommittee on September 27, 1988.	
Results in Brief	Fifty of 56 state officials responded to our questionnaire. The states vary in their pump labeling programs, but 39 of 50 responded that their states require pump labels to disclose gasoline ingredients. All 39 states require pump labeling of alcohol fuels; however, the states' require- ments vary as to how alcohol should be listed on the pump label. Although the majority of the states with labeling requirements seem sat- isfied with their programs, about one-half of all 50 respondents favored a federal uniform label for gasoline pumps. Counting just the responses of the states that expressed an opinion on a federal uniform label, about two-thirds of these 37 states favored a federal uniform pump label. Twenty-eight state officials commented on what should be included on a federal uniform pump label, but no consensus on what should be listed on such a label was evident from the responses. (App. II provides addi- tional details on the questionnaire results.)	
Background	Federal and state governments currently have some gasoline pump labeling requirements. The federal government requires the labeling of	
	¹ "State officials" refers to officials of the 50 states, the District of Columbia, Puerto Rico, and 4.1. Sterritories. We received responses from 47 states, the District of Columbia, Puerto Rico, and the Virgin Islands.	

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	lead content and the posting of octane ratings, ² while many of the states require pump labeling of alcohol fuels.
	In the past, lead additives were used to raise the octane rating of gaso- line. In the early 1980s, the Environmental Protection Agency (EPA) began reducing the levels of lead permitted in leaded gasoline because lead contaminates the environment. Thereafter, EPA required that gaso- line pump labels list the presence of lead.
	In 1978, the Congress enacted the Petroleum Marketing Practices Act (PMPA), which among other things, required that octane ratings of auto- motive gasoline be disclosed to consumers. This was intended to enable consumers to buy a gasoline with an octane rating that is high enough to prevent engine knock and to help consumers avoid buying more costly gasoline with an octane rating higher than their needs.
	In addition to the federal labeling requirements for octane ratings and lead, many states also have pump labeling requirements. The federal phasedown of lead in gasoline led the petroleum industry to find other ways to increase gasoline octane ratings. These other methods included blending alcohols with gasoline to produce higher octane fuels. As alco- hol fuels gained more acceptance, the states, in order to enable consum- ers to comply with automobile manufacturers' fuel specifications, began requiring pump labeling for alcohol fuels in the mid-1980s. (App. I con- tains more information on the background of pump labeling requirements.)
States' Pump Labeling Requirements	Thirty-nine of the states responding to our questionnaire require that retail gasoline stations place labels on their pumps disclosing gasoline ingredients. Twenty-six of those states have laws requiring pump label- ing, while the others have various bases for requiring labeling, such as state regulations and rules.
	In all 39 states with pump labeling requirements, these requirements are primarily concerned with the disclosure of alcohol fuel content, such as ethanol and methanol, in gasoline. The states' alcohol labeling require- ments were established primarily for consumer protection. Half of the

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 $^{^{2}}$ The octane rating of gasoline indicates its resistance to engine knock. Knock occurs when a portion of the fuel explodes or detonates spontaneously and prematurely in the cylinder of the engine instead of burning smoothly. The higher the octane rating, the greater the resistance to knock.

	states specifically indicated that alcohol labeling would enable consum- ers to comply with automobile manufacturers' fuel specifications.
	The states' pump labeling requirements for alcohol usually specify that gasoline must contain a certain minimum volume of alcohol to require alcohol labeling on the pump, and these minimums vary by state. The states' requirements also vary as to how alcohol content should be listed on the pump label; the requirements range from a general label, such as "Contains Alcohol," to specific labels stating the type and percentage of alcohol. Finally, the states' requirements for their alcohol pump labels vary with respect to the height and width of the letters, type of print to be used, color of the letters, color of the label background, and location of the label on the gasoline pump. (App. V shows a sample of the states' gasoline ingredient pump labels.)
	The states have various enforcement penalties available, such as fines, stop sales, and warnings, for pump labeling violations, and the states vary in the extent to which they enforce their pump labeling require- ments. Some states enforce their programs to a greater extent than others.
	Although the states' pump labeling programs vary, 22 out of 39 states with gasoline pump labeling requirements reported that they were satis- fied with their programs. When asked whether changes were needed to their pump labeling programs for gasoline ingredients, 22 state officials responded that changes were not needed, 9 responded that changes were needed, and 8 responded that they were uncertain or had no basis to judge whether their programs need changing.
States' Views on a Federal Uniform Pump Label	Thirty-seven of the 50 respondents expressed an opinion on whether a federal uniform pump label for gasoline ingredients would be beneficial. About half of the respondents that answered our questionnaire (24 out of 50) favored a federal uniform label, a quarter (13) were opposed, and the remaining quarter (13) were uncertain or had no basis to judge whether a federal label was needed. However, counting only the responses of the officials with opinions, about two-thirds of these 37 states favored a federal uniform pump label. The states gave various reasons for supporting or opposing a federal label; for example, supporters of a federal uniform label liked the idea of uniformity, while opponents were concerned about enforcement or preemption of state laws.

Twenty-eight respondents commented on what should be included on a federal uniform pump label. Their comments ranged from very general, such as labeling any ingredient that significantly alters the behavioral characteristics of the base gasoline, to very specific, such as labeling alcohol content. No consensus on what should be listed on such a label was evident from the states' responses. (App. VI lists the state officials' specific comments.) In February 1988, we prepared and sent questionnaires to 56 state offi-Scope and cials regarding state gasoline pump labeling practices and the need for a Methodology nationwide uniform gasoline pump label. We received 50 responses to our questionnaires from 47 states, the District of Columbia, Puerto Rico, and the Virgin Islands. We did not verify any of the data that the states provided to us. (App. III contains additional information on our methodology, and app. IV provides a copy of our questionnaire.) As arranged with your office, we are providing copies of this report to the 50 state officials who responded to our questionnaire and to other interested parties. Major contributors to this report are listed in appendix VII. Should you need further information, please contact me on (202) 275-1441. Sincerely yours, and O. July

Keith O. Fultz Senior Associate Director

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Abbreviations

EPA	Environmental Protection Agency
PMPA	Petroleum Marketing Practices Act

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Appendix I Background on Pump Labeling Requirements

Federal and state governments currently have some pump labeling requirements. The federal government requires pump labeling of lead content and the posting of octane ratings, while many of the states require pump labeling of alcohol fuels.

In the past, lead additives were used to raise the octane number of gasoline. In the early 1980s, the Environmental Protection Agency (EPA) began reducing the levels of lead permitted in leaded gasoline. As part of its "lead phasedown" project, EPA required labels on gasoline pumps to inform the public of the presence of lead. Earlier, in 1978, the Congress saw a need to inform the public of octane ratings of gasoline and enacted the Petroleum Marketing Practices Act (PMPA) to require uniform posting of gasoline octane ratings on pumps. This was intended to enable consumers to buy a gasoline with an octane rating that is high enough to prevent engine knock and to help consumers avoid buying more costly gasoline with octane ratings higher than their needs.

The federal phasedown of lead in gasoline led the petroleum industry to find other ways to increase the octane capabilities of gasoline. These methods included blending alcohols with gasoline to produce higher octane fuels. As alcohol fuels gained more use, the states began to consider establishing labeling guidelines for these fuels in order to enable consumers to comply with automobile manufacturers' fuel specifications. At the National Institute of Standards and Technology's 1984 Conference on Weights and Measures,¹ delegates from the states' and local governments' weights and measures offices voted to establish labeling guidelines for motor fuels containing at least 1 percent alcohol. Subsequently, many states implemented pump labeling for alcohol fuels.

¹The National Institute of Standards and Technology (formerly the National Bureau of Standards) sponsors the National Conference on Weights and Measures in partial implementation of its statutory responsibility for cooperation with the states in securing uniformity in weights and measures laws and methods of inspection. As one of its functions, the National Conference develops model uniform laws that are recommended to the states for use when the states are reviewing or amending their official laws and regulations in the areas covered.

Appendix II Results of Questionnaire

Of the 50 state officials that responded to our questionnaire, 39, or about three-quarters, have requirements that retail gasoline stations dis- close one or more ingredients in gasoline on pump labels. Twenty-six of those states have laws requiring pump labeling. The others have various bases for requiring pump labeling, such as state regulations and rules.
All of the 39 states with pump labeling requirements require gasoline stations to disclose the alcohol content, such as ethanol and methanol, in gasoline.
Most of the states with alcohol labeling requirements require the disclo- sure of alcohol content for consumer protection. Twenty state officials specifically indicated that alcohol labeling would enable consumers to comply with automobile manufacturers' fuel specifications. In addition, three officials mentioned the National Conference on Weights and Meas- ures' model law for motor fuel ingredients, which includes guidelines for disclosing alcohol in gasoline.
The states' pump labeling requirements for alcohol usually specify that gasoline must contain a certain minimum volume of alcohol to require alcohol labeling on the pump, and these minimums vary by state. Most of the states (24 out of 39) require alcohol labeling for gasoline with at least 1 percent alcohol volume, while about half as many states (14 out of 39) require alcohol labeling only for gasoline with more than 1 per- cent alcohol volume. Only 1 state out of the 39 requires alcohol labeling for gasoline with less than 1 percent alcohol volume. The states' requirements vary as to how alcohol content should be listed on the pump label. When the alcohol content of gasoline meets the mini-
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ethanol, methanol, gasohol, and/or other categories, such as co-solvents.¹ Table II.1 shows the states' responses on labeling requirements.

Table II.1: States' Responses to Alcohol Labeling Requirements

Type of labeling	States that use this labe	
Alcohol	10	
Ethanol	34	
Methanol	29	
Gasohol (10% ethanol blend)	8	
Other	12	

Note: 39 states answered this question.

State requirements range from using a general label, such as "Contains Alcohol," to specific labels requiring the type and percentage of alcohol. The state officials' responses to our questionnaire showed that most of the states require that the presence of ethanol and/or methanol in gaso-line be specifically revealed on the gasoline pumps. For example, several states require that gasoline containing ethanol must be labeled "Contains Alcohol" with the word "Ethanol" and the percentage of ethanol in the gasoline printed below it. Some officials also mentioned that the presence of co-solvents must be marked on the pumps.

The states' requirements for noting alcohol content on pump labels also vary with respect to the height and width of the letters, type of print, color of the letters, color of the label background, and location of the label on the gasoline pump. (App. V shows a sample of the states' gasoline ingredient pump labels.)

What Are the States' Penalties and Extent of Enforcement?

The states have various enforcement penalties available, such as fines (32 states), stop sales (28 states), and warnings (18 states). The states vary in the extent to which they enforce their pump labeling requirements. Twenty-six state officials, or two-thirds of those with pump labeling programs, reported that their states enforce pump labeling requirements to a great or a very great extent. The remaining 13 state officials said that their states enforce their pump labeling requirements to a moderate extent, to some extent, or to little or no extent.

¹A co-solvent is an alcohol or any other chemical with a heavier molecular weight than methanol or ethanol. It is blended with either or both to prevent phase separation in gasoline. Phase separation occurs if, on contact with water, the alcohol in gasoline leaves the blend and goes with the water

al Uniform Label? Indefinition a federal uniform gasoline pump fabel (24 out of 50). A quarter of the officials were opposed to a federal pump label and the remaining quarter had no opinion. Table II.2 shows a summary of the officials' responses to this question.	Are Changes Needed to State Pump Labeling Programs?	pump labeling requirements pump labeling programs. Wh their pump labeling program not needed, 9 responded tha that they were uncertain or grams need changing. Of the	is (more than half) from states with reported that they were satisfied when asked whether changes are nee ns, 22 officials responded that chan at changes were needed, and 8 responses have no basis to judge whether the enine state officials that indicated of ms, two mentioned that they were of t of pump labeling.	with their eded to ages were onded eir pro- changes
Federal Uniform Pump LabelStates' responsesPercentDefinitely yes1122Probably yes1326Definitely not510Probably not816Uncertain714	Is There a Need for a Federal Uniform Pump Label?	favored a federal uniform ga of the officials were opposed quarter had no opinion. Tab	asoline pump label (24 out of 50). A d to a federal pump label and the re	A quarter emaining
Definitely yes1122Probably yes1326Definitely not510Probably not816Uncertain714	Table II.2: States' Responses to the			Percent
Probably yes1326Definitely not510Probably not816Uncertain714		Definitely ves		
Definitely not510Probably not816Uncertain714				
Probably not 8 16 Uncertain 7 14				
Uncertain 7 14			8	16
No basis to judge 6 12			7	14
		No basis to judge	6	12
Total 50 100		Total	50	100
Total50Counting just the officials that responded to our questionnaire with		Probably yes Definitely not Probably not Uncertain No basis to judge Total	11 13 5 8 7 6 50	

Of the 13 state officials that are opposed to a federal uniform pump label, 3 cited enforcement reasons. One commented, for example, that

	Appendix II Results of Questionnaire	
	unless the federal government is going to fund and enforce legal require- ments, it should stay out of the process. Another official commented that labeling requirements are meaningful only if there is an effective compliance and enforcement program, and since only the states are likely to conduct such compliance and enforcement programs on motor fuel labeling, it makes no sense for the federal government, overex- tended as it is, to become involved in the gasoline ingredient labeling business.	
	Two state officials that are opposed to a federal uniform pump label expressed concern about preemption of state laws. One commented that a federal law would be so watered down as to be totally inadequate, and it would probably preempt more stringent state laws. The other com- mented that uniformity by consensus of the regulators is desirable, but preemption of state law, by whatever name, is unproductive and under- mines existing programs. Another official, who indicated he had no basis to judge whether a federal uniform label was needed, expressed concern about a rigid federal law preempting a state law that might be more flexible and appropriate.	
What Should Be Listed on a Uniform Label?	Twenty-eight state officials responded to our request for a list of ingre- dients that should be included on a federal uniform pump label. No con- sensus on what should be listed on such a label was evident from the states' responses. Their comments ranged from very general to very spe- cific labeling. For example, one official said that any ingredient that sig- nificantly alters the behavioral characteristics of the base gasoline or any ingredient that may require a warning label because of public health concerns should be on a pump's label. Another said that all necessary information that would benefit a buyer's and seller's health and would help protect the vehicle should be included on a uniform pump label.	
	More specifically, 17 officials said that alcohol should appear on a fed- eral pump label. One official volunteered, for example, that consumers need to know whether alcohol blended fuels contain ethanol or metha- nol, and what percentage, because some automobile warranties can be voided by improper dilutions of alcohol. Three state officials noted that oxygenates should be included on a federal label. One of them com- mented that, in order not to discriminate against specific types of alco- hols, all oxygenates should be labeled. (The state officials' specific comments are listed in app. VI.)	

Appendix III Scope and Methodology

To address the questions that the Chairman asked us to review concerning pump labeling, in February 1988 we sent questionnaires to the 50 states, the District of Columbia, Puerto Rico, and 4 U.S. territories (American Samoa, Guam, the Mariana Islands, and the Virgin Islands) to survey them on their ingredient pump labeling programs. We sent the questionnaires to state officials, primarily in the states' Weights and Measures offices, whom we had identified as being responsible for ingredient pump labeling programs. We received 50 responses to our questionnaires from 47 states, the District of Columbia, Puerto Rico, and the Virgin Islands.

We contacted specific states between March and August 1988 to clarify some individual responses to questions, but we did not verify any of the data that the states provided to us. We also did not evaluate or do any analysis of our own on issues, such as safety, health factors, environmental problems, and consumer protection, that are related to gasoline ingredient pump labeling because this was outside the scope of our work.

Appendix IV Pump Labeling Questionnaire



(1-3)60(4-5) 308788 (6-11) PART II - INGREDIENT PUMP LABELING 5. What must the volume percentage of alcohol be to require alcohol labeling? (CHECK ONE) The following questions apply to state (19) requirements for gasoline pump labeling of ingredients such as alcohol, benzene, 1. [] Less than one percent etc. 2. [] One percent 3. [] More than one percent 1. Does your state currently have any --PLEASE GIVE PERCENTAGE retail pump labeling requirements for (20-22) gasoline ingredients? (CHECK ONE) (12) 1. [] Yes -- GO TO NEXT QUESTION 6. For gasoline exceeding the percentage in question 5, how is alcohol 2. [] No -- SKIP TO QUESTION 11 shown on the pump label? (CHECK ALL THAT APPLY) (23-27) 2. What is the basis for these state requirements? (CHECK ALL THAT APPLY) 1. [] Alcohal (13-16) 2. [] Ethanol 1. [] State law 3. [] Methanol 2. [] State regulation 4. [] Gasohol 3. [] Administrative rule 5 [] Other (PLEASE EXPLAIN) 4. [] Other (PLEASE SPECIFY) 100 . gi ------Please provide a copy of the state requiremente question. The ase <u>also include</u> a sample of an activity pump label. (17) 4. Does your state require pump labeling relating to alcohol content of fuel? (CHECK ONE) (18) 1. [] Yes -- GO TO NEXT QUESTION 2. [] No -- SKIP TO QUESTION 8

9. To what extent does your state urrently enforce its pump labeling equirements for gasoline ingredients? CHECK ONE) (36) . [] To little or no extent . [] To some extent . [] To a moderate extent
. [] To some extent
. [] To a moderate extent
. [] To a great extent
. [] To a very great extent
0. In your opinion, do you feel that hanges to your state's pump labeling rogram for gasoline ingredients are eeded? (CHECK ONE) (37)
. [] Definitely yes
[] Probably yes
. [] Uncertain
[] Probably not
. [] Definitely not
. [] No basis to judge

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Sample of States' Gasoline Ingredient Pump Labels

CONTAINS ALCOH	OLS	% MTBE
CONTAINS ALCOHOL 5% METHANOL 5% TERTIARY BUTANOL		MEETS MICH. QUALITY & PURITY STANDARDS FOR UNLEADED PREMIUM CONTAINS: ETHANOL 10% CALL 1-600-MDA FUEL.
UNLEAD WITH 10% E		CONTAINS 10% Ethyl Alcohol
CONTAINS 10% ETHANOL		IIS FUEL CONTAINS Ethanol 10%
STATE OF MARYLAND COMPTROLLER OF THE THEASURY		

Note: Labels are not to scale.

Appendix VI

State Officials' Suggestions as to What Should Be Included on a Federal Uniform Pump Label

Alabama	list any ingredient that significantly alters the behavioral
Alabama	List any ingredient that significantly alters the behavioral characteristics of the base gasoline or any ingredient that may require a warning label because of public health concerns.
Alaska	List ingredients only to distinguish between hydrocarbon and oxygenated fuels.
Arizona	List all necessary information that would benefit the buyer's and seller's health and help protect the vehicle.
Arkansas	List the alcohol content for alcohol blended fuels.
Colorado	Consumers need to know whether alcohol blended fuels contain ethanol or methanol and what percentage of the fuel is ethanol or methanol. Some automobile warranties can be voided by improper dilutions of alcohol.
Delaware	List the percentage of alcohol (methanol and ethanol) content.
District of Columbia	List the percentage and type of gasoline ingredients.
Florida	Use Florida's rule, which requires a pump label stating "contains alcohol-ethanol" or "contains alcohol-methanol."
Hawaii	Labels should list octane, lead content, and alcohol content.
Illinois	In order not to discriminate against labeling specific types of alcohols, all oxygenates should be labeled. Consumers do have problems with other types of alcohols and oxygenates.
Maine	Indicate the amount and type of any alcohol included.
Maryland	Indicate the type of alcohol whenever the content exceeds 1 volume percent, and/or give some warning when the fuel is not <u>pure</u> hydrocarbon (whenever it contains an oxygenate or something other than straight hydrocarbons, other than normal anti-rust, anti-oxidant additives, etc.). Anything that has an impact upon a vehicle's performance versus performance when using a straight hydrocarbon product should be listed.
Michigan	List any substance in gasoline, other than gasoline, in quantities greater than .25 percent. Also, list any metals.
Minnesota	Minnesota generally follows National Bureau of Standards Handbook 44 and National Conference of Weights and Measures labeling guidelines.
Missouri	Label should use the word "CONTAINS" and list the percentage and type of each alcohol additive.
Nevada	List octane number and additives such as methanol, ethanol, benzenes, and other cleaners used to keep fuel injection systems operating correctly.
New Jersey	All ingredients that affect octane should be listed on the label.
New Mexico	List the type and amount of added ingredients.
North Carolina	If vehicle manufacturers qualify warranties or warn against the use of a fuel with a particular ingredient, that ingredient should be indicated on the label.
North Dakota	List gasoline grade and percentage and type of alcohol present.
Ohio	The Ohio rule is patterned, in part, after the National Bureau of Standards' Model Law.
Oklahoma	States should be responsible for pump labeling, not the federa government.
	(continued

(continued)

Appendix VI State Officials' Suggestions as to What Should Be Included on a Federal Uniform Pump Label

Puerto Rico	Included on this label should be any and all ingredients capable of affecting, in any way, the proper behavior of a motor or the human body. This label should state the percentage of each ingredient present in the fuel.
Rhode Island	Label should list alcohol, ethanol, methanol, and gasohol, and any additive that has a health risk involved.
South Carolina	Information pamphlets and handouts would be more effective for the consumers who are really interested in the ingredients. State requires prominent labeling of alcohols by percentage. but most consumers do not understand the information provided.
Texas	List the percentage of alcohol, if any; the octane rating of fuel; and a benzene warning.
Vermont	List all harmful ingredients.
Washington	The contents of the label should be worked out at the National Conference on Weights and Measures.

Appendix VII Major Contributors to This Report

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