



# MSAPC ADVISORY CIRCULAR

U.S. ENVIRONMENTAL PROTECTION AGENCY

OFFICE OF AIR AND WASTE MANAGEMENT ●

MOBILE SOURCE AIR POLLUTION CONTROL

A/C NO. 32B

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SUBJECT: Compliance with Requirements of Lead Regulations Regarding  
Unleaded Fuel

A. Purpose

The purpose of this Advisory Circular is to explain the requirements of the lead regulations (40 CFR Part 80) regarding the use of unleaded fuel, and to amend Sections D.2.d. and E. of Advisory Circular 32A. This Advisory Circular supersedes No. 32A beginning with the 1976 model year.

B. Background

1. On January 10, 1973 EPA promulgated regulations (38 F.R. 1254) prescribing certain labeling and gasoline filler inlet requirements applicable to manufacturers of motor vehicles equipped with an emission control device which the Administrator has determined will be significantly impaired by the use of leaded fuel. These regulations were amended on September 21, 1973 (38 F.R. 26449) to provide for the approval of alternative labels and to clarify the filler inlet restrictor and immediate shut-off requirements. The regulations were again amended on September 26, 1974 (39 F.R. 34538) to further clarify the filler inlet restriction requirements and to lower the flowrate during tests for immediate shut-off. The purpose of these requirements is to: 1) provide adequate notice to the vehicle operator and the gas station attendant of the unleaded fuel requirement of the vehicle, 2) to make accidental filling of the fuel tank with leaded fuel almost impossible, and 3) to make intentional filling of the fuel tank with leaded fuel difficult.

2. Advisory Circular No. 30 stated that manufacturers who elect to certify non-catalyst-equipped vehicles using unleaded fuel are required, as a condition of certification, to meet the same labeling and gasoline filler inlet requirements.

3. EPA has been asked for its interpretation of various provisions of these regulations. EPA has also been asked how a manufacturer may assure himself that his vehicle conforms to the requirements of these regulations.

4. On November 2, 1973, EPA published Advisory Circular No. 32 to clarify the requirements of the lead regulations (40 CFR Part 80) regarding the use of unleaded fuel. On January 10, 1974, Advisory Circular 32A revised Section E.2. to conform with 40 CFR 80.24(b) as amended September 21, 1973. That amendment set a performance standard rather than a dimensional standard for immediate shut-off requirements.

5. Advisory Circular No. 32B amends Section D.2.d. to provide more general guidelines for unleaded fuel label color requirements and acceptance criteria. Section E. is amended to clarify the immediate shut-off requirements and to eliminate the exemption of filler inlets whose outer-most surface or lip is too small to allow insertion of leaded fuel nozzles. Such designs were accepted for the 1975 model year but will not be permitted for 1976 and subsequent model years for reasons stated in Section E.2.

#### C. Applicability

The provisions of this Advisory Circular are applicable to gasoline-fueled light duty vehicles, light duty trucks and vehicles using gasoline-fueled heavy duty engines which are equipped with an emission control device which the Administrator has determined will be significantly impaired by the use of leaded fuel, beginning with 1976 and later model years.

#### D. Labeling Requirements

1. 40 CFR 80.24(a) requires the manufacturer to affix two or more permanent, legible labels reading "Unleaded Gasoline Only" to vehicles determined by the Administrator to be equipped with devices which will be significantly impaired by the use of leaded gasoline. (The label may also read "Unleaded Fuel Only".) One label is to be located on the instrument panel of the vehicle and one label is to be located immediately adjacent to each gasoline filler tank inlet. Both are to be readily visible, in the English language in block letters, and in a color that contrasts with their background. The regulations provide for the Administrator to approve other label locations for the outside label which achieve the purpose of this requirement (i.e., provide adequate notice to the gas station attendant of the unleaded fuel requirement of the vehicle).

2. For the purposes of this requirement, EPA defines certain words used in the above paragraph as follows:

a. "Permanent" means the label cannot be removed easily. The label need not be welded on. It may be affixed in the same manner as other labels intended to be permanent which already appear on vehicles, such as model names. A label on a filler inlet cap, regardless whether the cap is connected to the vehicle by chain, will not be considered a permanent location.

b. "Immediately adjacent to" means on the door to the filler inlet compartment or within six inches of the door to the filler inlet compartment or, in the absence of a door, of the filler inlet cap, provided that it may be at a greater distance if a greater distance is necessary to meet the "readily visible" requirements of Section D.2.c. below.

c. "Readily visible" means a location which is unobstructed from view (e.g., not on the underside of the bumper). The letters on dashboard labels must be no smaller than 1/8" high. The letters on outside vehicle labels must be no smaller than 1/4" high.

d. "Color that contrasts with their background" means a hue, chroma, and/or degree of reflectance easily distinguishable from the background. Examples could be color combinations at least one primary color away or black and white. Adequacy of contrast will be judged on an individual basis by EPA.

3. An example of an alternate label location to the outside label requirement specified in the regulations which EPA would consider acceptable is a label on a second door inside the filler inlet compartment which would require a separate action from opening the outside compartment door in order to reach the filler inlet.

#### E. Filler Inlet Restriction and Immediate Shut-Off Requirement

1. 40 CFR 80.24(h) requires the manufacturer to equip vehicles with a gasoline tank filler inlet having a restriction which prevents the insertion of a leaded fuel nozzle and allows the insertion of an unleaded fuel nozzle. The regulations prescribe a test procedure for determining compliance with that requirement. The test procedure defines "immediate shut-off" to mean no more than 700 c.c. of fuel pass into the fuel tank when insertion and filling are attempted with a leaded fuel nozzle whose terminal end and vacuum port are inserted within the filler inlet. During the test, the nozzle may be positioned in any orientation or depth except those which would cause fuel spillage other than splash back. Fuel spillage is fuel which does not pass through the plane of the fuel filler inlet during an attempted fill. Fuel splash back is fuel which is splashed or reflected back from the filler inlet after it has passed through the plane of the filler inlet. Positions which cause such fuel spillage will not be used in test evaluation since they would not normally be encountered in actual use.

2. Further investigation has convinced EPA that configurations in which the I.D. of the cam surface or outermost lip of the filler inlet is small enough to prevent insertion of the leaded fuel nozzle will not meet the intent of the regulations, i.e., to limit the accidental or intentional introduction of leaded fuel. EPA has determined that it is quite simple to fill a tank with fuel from a leaded fuel nozzle when such filler inlet restrictions are used. Therefore, EPA will require that all configurations prevent more than 700 c.c. of fuel from passing

into the fuel tanks when filling is attempted with a leaded fuel nozzle. Any design or configuration which a manufacturer feels is not applicable for evaluation under the test procedure specified in 40 CFR Part 80 will be evaluated by EPA on an individual basis, at the request of the manufacturer, to determine if that design or configuration meets the 700 c.c. maximum fill requirement.

F. Procedure for Determining Assurance of Acceptable Labels and Filler Inlet Restrictors, and Performance of Immediate Shut-Off Requirement.

1. A manufacturer of light duty vehicles or light duty trucks may, if he wishes to assure himself that his vehicles or trucks conform to the requirements of 40 CFR 80.24, describe his unleaded fuel label, filler inlet restriction, and the means to satisfy the immediate shut-off requirement in his Part I application, a subsequent amendment to the Part I, or in a letter to the Director, Certification and Surveillance Division, U.S. Environmental Protection Agency, 2565 Plymouth Road, Ann Arbor, Michigan 48105. EPA will notify the manufacturer in writing whether his vehicles or trucks conform with those regulations. In making that determination, EPA may require actual labels and/or color pictures of label locations. EPA may also require demonstration of the filler inlet restriction and demonstration of the immediate shut-off on a non-certification vehicle or on a vehicle simulation.

2. A heavy duty vehicle manufacturer may, if he wishes to assure himself that his vehicles conform to the requirements of 40 CFR 80.24, describe his unleaded fuel label, filler inlet restriction, and the means to satisfy the immediate shut-off requirement in a letter to the Director, Certification and Surveillance Division, EPA, 2565 Plymouth Road, Ann Arbor, Michigan 48105. EPA will notify the manufacturer in writing whether his vehicles conform with those regulations. In making that determination, EPA may require actual labels and/or color pictures of label locations. EPA may also require demonstration of the filler inlet restriction and demonstration of the immediate shut-off on a vehicle or on a vehicle simulation.

3. Though certification test vehicles need not conform to the requirements of 40 CFR 80.24, manufacturers are strongly urged to have a clear indication near the filler inlet compartment that the vehicle, if applicable, requires unleaded fuel.



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