

<p style="text-align: center;">NOT MEASUREMENT SENSITIVE</p>
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A-A-52530

October 10, 1995

SUPERSEDING

MIL-G-53006

1 December 1983

## COMMERCIAL ITEM DESCRIPTION

### GASOHOL, AUTOMOTIVE, UNLEADED

The General Services Administration has authorized the use of this Commercial Item Description (CID) for all federal agencies

1 SCOPE This CID covers requirements for a type of reformulated unleaded automotive gasoline containing ethyl alcohol (ethanol) as the oxygenate. Gasohol meets the oxygenate requirements for use in carbon monoxide nonattainment areas. Unleaded gasohol is intended for immediate use by all classes of spark ignition (SI) internal combustion automotive engines and all other equipment designed to operate on gasoline. It is not intended for static storage environments. It should not be stored for more than 60 days without replenishment because of possible auto-oxidation and water absorption which can result in fuel deterioration.

#### 1.1 Classification

1.1.1 Grades Unleaded gasohol shall be of three grades. The major differences between the grades are the antiknock index (AKI) levels. AKI levels may be reduced for altitude and weather as shown in ASTM D4814.

<u>Grade</u>	<u>AKI</u>
Limited	87
Regular	89
Premium	91

<p>Beneficial comments, recommendations, additions, deletions, clarifications, etc and any other data which may improve this document should be sent by letter to U S Army Tank-automotive and Armaments Command, ATTN AMSTA-TR-E/BLUE, Warren, MI 48397-5000</p>
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FSC 9130

DISTRIBUTION STATEMENT A Approved for public release, distribution is unlimited

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1.1.2 **Classes** Unleaded gasohol shall be of six classes for each grade. The major differences between the classes are the volatility levels. Schedule of seasonal and geographical volatility classes and listing of ozone nonattainment areas are shown in ASTM D4814.

Class	Condition of use
AA	Ozone nonattainment areas
A	Very hot
B	Hot
C	Warm
D	Mild
E	Cold

## 2 SALIENT CHARACTERISTICS

2.1 **Material** The gasohol shall be composed of 90 percent volume unleaded gasoline and 10 percent volume ethyl alcohol (ethanol) with a tolerance of 1 percent.

2.2 **Legal requirements.** Gasohol furnished under this CID must meet all applicable legal requirements in accordance with the Code of Federal Regulations.

2.3 **Base gasoline.** The base gasoline shall be a volatile hydrocarbon fuel conforming to ASTM D4814 for unleaded gasoline except that no oxygenates (alcohols or ethers) shall be present other than small amounts used as anti-icing additives.

2.4 **Ethyl alcohol.** Ethyl alcohol shall be denatured and shall conform to ASTM D4806.

2.5 **Additives.** The unleaded gasohol may contain antioxidants, metal deactivators, corrosion inhibitors, dyes and nonphosphorous containing deposit modifiers. Additives other than these, such as detergents, emulsifiers, solvent oils, etc. will be permitted in procurement provided prior examinations have verified the absence of their potential deleterious effects.

2.6 **Performance requirements.**

2.6.1 **Physical and chemical requirements** The unleaded gasohol shall meet the physical and chemical requirements of ASTM D4814 for unleaded fuel except as specified in 2.6.2 and 2.6.3.

2.6.2 **Volatility requirements** The unleaded gasohol shall meet the volatility requirements of ASTM D4814, except that the Reid Vapor Pressure may be 1.0 psi (6.9 kPa) higher during the period 1 May through 15 September for use within the United States, including Alaska and Hawaii.

2.6.3 AKI requirements. The unleaded gasohol shall meet the AKI requirements of ASTM D4814 for grades of product subject to reduction for altitude and weather

2.6.4 Seasonal and geographical use The seasonal and geographical distribution of the combined vapor pressure/distillation-vapor lock classes shall meet the requirements of ASTM D4814.

2.6.5 Water tolerance. Water tolerance shall be as shown in ASTM D4814

### 3. Regulatory requirements.

3.1 Clean air act requirements. Under authority of the clean air act, the U.S Environmental Protection Agency (EPA) issues vapor pressure control standards for unleaded and leaded gasoline-oxygenate blends. Reduced volatility limits are imposed in some areas designated as ozone nonattainment areas. Some states, notably California, have more restrictive vapor pressure limits. Details of the EPA regulations and test methods are given in part 80 of title 40 of the Code of Federal Regulations.

### 4. QUALITY ASSURANCE PROVISIONS.

4.1 Responsibility for inspection. The contractor is responsible for the performance of all inspections (examinations and tests).

4.2 Contractor certification. The contractor shall certify and maintain substantiating evidence that the product offered meets the salient characteristics of this CID and that the product conforms to the producer's own drawings, specifications, workmanship standards, and quality assurance practices. Items with known defects shall not be submitted for Government acceptance. The Government reserves the right to require proof of such conformance prior to the first delivery and thereafter as may be otherwise provided for under the provisions of the contract.

5. Preservation, packaging, packing, labeling, and marking Unleaded gasohol will generally be produced in bulk unless called for in the contract for 55 gallon drum quantities Preservation, packaging, packing, labeling, and marking shall be as specified in the contract or order (see 6.2).

### 6. NOTES.

(This section contains information of a general or explanatory nature that may be helpful but is not mandatory )

6.1 Addresses for obtaining copies of referenced documents

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6.1.1 **Government documents** Copies of 40 CFR Part 80 are available from the Superintendent of Documents, Government Printing Office, Washington, DC 20402

6.1.2 **Industry standards** Copies of ASTM D4806 "Standard Specifications for Denatured Fuel Ethanol for Blending With Gasoline for Use as Automotive Spark-Ignition Engine Fuel" and ASTM D4814 "Standard Specification for Automotive Spark-Ignition Engine Fuel" are available from the American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103-1187

6.2 **Ordering data.** Acquisition documents must specify the following

- a Title, number, and date of this CID.
- b Issue of DODISS to be cited in the solicitation
- c. Grade and class of gasohol required.
- d Whether bulk or drum packaging
- e Quantity of gasohol required in terms of gallons (3 785 liters) at 60 degrees Fahrenheit (16 degrees Celsius) for bulk or number of drums for packaging
- f Selection of applicable level and packaging requirements.

6.3 **Cross-reference data.** Unleaded gasohol conforming to this CID is interchangeable/ substitutable with unleaded gasohol conforming to MIL-G-53006

**MILITARY INTERESTS:**

**Custodians**

- Army - AT
- Navy - YD-1
- Air Force - 68

**Review activities**

- Army - MD
- Navy - SA, SH
- DLA - PS

**CIVIL AGENCY COORDINATION ACTIVITIES**

GSA - FSS

**PREPARING ACTIVITY**

Army - AT

(Project 9130-1056)