# F. Uniform Fuels and Automotive Lubricants Regulation

as adopted by
The National Conference on Weights and Measures*

## 1. Background

In 1984, the National Conference on Weights and Measures (NCWM) adopted a Section 2.20. in the Uniform Regulation for the Method of Sale of Commodities requiring that motor fuels containing alcohol be labeled to disclose to the retail purchaser that the fuel contains alcohol. The delegates deemed this action necessary since motor vehicle manufacturers were qualifying their warranties with respect to some gasoline-alcohol blends, motor fuel users were complaining to weights and measures officials about fuel quality and vehicle performance, and ASTM International (ASTM) had not yet finalized quality standards for oxygenated (which includes alcohol-containing) fuels. While a few officials argued weights and measures officials should not cross the line from quantity assurance programs to programs regulating quality, the delegates were persuaded that the issue needed immediate attention.

A Motor Fuels Task Force was appointed in 1984 to develop mechanisms for achieving uniformity in the evaluation and regulation of motor fuels. The Task Force developed the Uniform Motor Fuel Inspection Law (see the Uniform Fuels and Automotive Lubricants Inspection Law section of this handbook) and the Uniform Fuel and Automotive Lubricants Regulation to accompany the law. The Uniform Law required registration and certification of motor fuel as meeting ASTM standards. The regulation defined the ASTM standards to be applied to motor fuel.

In 1992, the NCWM established the Petroleum Subcommittee under the Laws and Regulations Committee. The subcommittee recommended major revisions to the Regulation that was adopted at the 80th NCWM in 1995. The scope of the regulation was expanded to include all engine fuels, petroleum products, and automotive lubricants; its title was changed accordingly; and the fuel specifications and method of sale sections were revised to address the additional products. Other changes included expansion of the definitions section and addition of sections on retail storage tanks, condemned product, registration of engine fuels designed for special use, and test methods and reproducibility limits.

In 2007, the Petroleum Subcommittee (now referred to as the Fuels and Lubricants Subcommittee) undertook a review of this regulation to update it by eliminating reference to "petroleum products" and to reflect the addition of new engine fuels to the marketplace. The regulation continues to be updated to incorporate new regulatory requirements and other key changes.

(Amended 2018)

Even after the inclusion of the Uniform Regulation for Motor Fuel and Automotive Lubricants into NIST Handbook 130, the NCWM recognized that more states adopt the Uniform Regulation for the Method of Sale of Commodities than adopt the Uniform Fuel and Automotive Lubricants Regulation. To promote uniformity in state regulations a number of these regulations continue to be included in both regulations.

(Amended 2018 and 2021)

## 2. Status of Promulgation

The Uniform Regulation for Engine Fuels and Automotive Lubricants was adopted by the NCWM in 1995. The status of state actions with respect to this Regulation is shown in the table beginning on page 6.

(Amended 2008)

*The National Council on Weights and Measures (NCWM) is supported by the National Institute of Standards and Technology (NIST) in partial implementation of its statutory responsibility for "cooperation with the states in securing uniformity in weights and measures laws and methods of inspection."

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# F. Uniform Fuels and Automotive Lubricants Regulation

## Section 1. Definitions

**1.1. ASTM (ASTM International) (www.astm.org)**. – The international voluntary consensus standards organization formed for the development of standards on characteristics and performance of materials, products, systems, and services, and the promotion of related knowledge.

**1.2. Antiknock Index (AKI).** – The arithmetic average of the Research Octane Number (RON) and Motor Octane Number (MON): AKI = (RON+MON)/2. This value is called by a variety of names, in addition to antiknock index, including: octane rating, posted octane, (R+M)/2 octane.

**1.3. Automatic Transmission Fluid.** – A product intended for use in a passenger vehicle, other than a bus, as either lubricant, coolant, or liquid medium in any type of fluid automatic transmission that contains a torque converter. For the purposes of this regulation, fluids intended for use in continuously variable transmissions are not considered "Automatic Transmission Fluid."

(Added 2004)

**1.4. Automotive Fuel Rating.** – The automotive fuel rating required under the amended Automotive Fuel Ratings, Certification and Posting Rule (or as amended, the Fuel Rating Rule), **16 C.F.R. § 306**. Under this Rule, sellers of liquid automotive fuels, including alternative fuels, must determine, certify, and post an appropriate automotive fuel rating. The automotive fuel rating for gasoline and gasoline-oxygenate blends is the antiknock index (octane rating). The automotive fuel rating for alternative liquid automotive fuels consists of the common name of the fuel, along with a disclosure of the amount, expressed as a minimum volume percent of the principal component of the fuel. For alternative liquid automotive fuels, a disclosure of other components, expressed as a minimum volume percent, may be included, if desired.

(Amended 2018)

**1.5. Automotive Gasoline, Automotive Gasoline-Oxygenate Blend.** – A type of fuel suitable for use in spark ignition automobile engines containing small amounts of fuel additives and also commonly used in marine and non-automotive applications.

(Amended 2018)

**1.6. Aviation Gasoline.** – A type of gasoline suitable for use as a fuel in an aviation spark-ignition internal combustion engine.

**1.7. Aviation Turbine Fuel.** – A refined middle distillate suitable for use as a fuel in an aviation gas turbine internal combustion engine.

**1.8. Biodiesel.** – A fuel comprised of at least 99 % by volume mono-alkyl esters of long chain fatty acids derived from vegetable oils or animal fats, designated B100 or B99.

(Amended 2018)

**1.9. Biodiesel Blend.** – A fuel comprised of homogeneous mixture of hydrocarbon oils and mono-alkyl esters of long-chain fatty acids.

(Amended 2018 and 2024)

**1.10. Butanol.** – Butyl alcohol, the chemical compound $C_4H_9OH$, a colorless substance existing in four isomeric forms.

(Added 2018)

**1.11. Cetane Number.** – A numerical measure of the ignition performance of a diesel fuel obtained by comparing it to reference fuels in a standardized engine test.

**1.12. Compressed Natural Gas (CNG).** – Natural gas which has been compressed and dispensed into fuel storage containers and is suitable for use as an engine fuel.

**1.13. Denatured Fuel Ethanol.** – An ethanol blend component for use in gasoline-ethanol blends and ethanol flex fuel. The ethanol is rendered unfit for beverage use by the addition of denaturants under formulas approved by the Alcohol and Tobacco Tax and Trade Bureau (TTB) (**www.ttb.gov**), by the latest version of ASTM D4806, "Standard Specification for Denatured Fuel Ethanol for Blending with Gasolines for Use as Automotive Spark Ignition Engine Fuel" describes the acceptable denaturants for denatured fuel ethanol to be blended into spark ignition engine fuels.

(Amended 2014)

**1.14. Diesel Exhaust Fluid (DEF).** – A preparation of aqueous urea [(NH2)2CO], containing 32.5 % by mass of technically-pure urea in high-purity water with quality characteristics defined by the latest version of ISO 22241, "Diesel engines – NOx reduction agent AUS 32."

(Added 2014)

**1.15. Diesel Fuel.** – A liquid fuel specifically designed for injection into a compression-ignition engine to provide energy, commonly composed of hydrocarbons refined from petroleum or biomass and the fuel may contain biodiesel and fuel additives.

(Amended 2018 and 2024)

**1.16. Director.** – The Director, Commissioner, or other authority having jurisdiction over a department and/or their designated agent(s).

(Added 2018)

**1.17. Distillate.** – Any product obtained by condensing the vapors given off by boiling petroleum or its products.

**1.18. EPA. (www.epa.gov)** – The United States Environmental Protection Agency.

**1.19. Energy Institute (EI). (knowledge.energyinst.org)** – A professional organization for the energy industry, developing standards, and other technical documents.

(Added 2018)

**1.20. Engine Fuel.** – Any liquid or gaseous matter used for the generation of power in an internal combustion engine.

**1.21. Engine Fuels Designed for Special Use.** – Engine fuels designated by the Director as requiring registration. These fuels normally do not have ASTM or other national consensus standards applying to their quality or usability; common special fuels are racing fuels and those intended for agricultural and other off-road applications.

**1.22. Ethanol.** – Also known as "ethyl alcohol." Ethanol is provided in gasoline-ethanol blends by blending denatured fuel ethanol. (See Section 1.13. Denatured Fuel Ethanol.)

(Amended 2014)

**1.23. Ethanol Flex Fuel.** – Blends of ethanol and hydrocarbons restricted for use as fuel in ground vehicles equipped with flexible-fuel spark-ignition engines.

(Amended 2014)

**1.24. Flexible Fuel Vehicle.** – A vehicle designed to operate on either unleaded gasoline or ethanol flex fuel or mixtures of both. Flexible fuel vehicles may also be designated to run on M85 Fuel Methanol.
(Added 2018)

**1.25. Fuel Additive.** – A material added to a fuel in small amounts to impart or enhance desirable properties or to suppress undesirable properties.
(Added 2018)

**1.26. Fuel Cell.** – An electrochemical energy conversion device in which fuel and an oxidant react to generate electricity without consumption, physically or chemically, of its electrodes or electrolytes.
(Added 2012)

**1.27. Fuel Oil.** – A liquid fuel designed for use in open flame applications to provide energy, commonly composed of hydrocarbons refined from petroleum or biomass and the fuel may contain biodiesel and fuel additives. The fuel may also be used in select compression-ignition engines.
(Amended 2018 and 2024)

**1.28. Gasoline.** – A volatile mixture of liquid hydrocarbons containing small amounts of additives suitable for use as a fuel in a spark-ignition internal combustion engine.
(Amended 2018)

**1.29. Gasoline-Oxygenate Blend.** – A fuel consisting primarily of gasoline along with a substantial amount (more than 1 % by volume oxygenate, or more than 0.3 % by volume methanol not to exceed the total oxygen content permitted by applicable laws and regulations. Examples of oxygenates used in gasoline-alcohol blends are ethanol and butanol.
(Amended 2018)

**1.30. Gear Oil.** – An oil used to lubricate gears, axles, or some manual transmissions.
(Added 2004)

**1.31. Hydraulic Fluid.** – A product intended for use in multiple applications with a dedicated hydraulic system and sump. Such fluids cannot be used in tractors. A person shall not represent a hydraulic fluid in any manner that may deceive or tend to deceive the purchaser as to suitability for the use of the product as a Tractor Hydraulic Fluid. (see Tractor Hydraulic Fluid for reference.)
(Added 2019) (Amended 2021)

**1.32. Hydrogen Fuel.** – A fuel composed of molecular hydrogen intended for consumption in a surface vehicle or electricity production device with an internal combustion engine or fuel cell.
(Added 2012)

**1.33. Internal Combustion Engine.** – A device used to generate power by converting chemical energy bound in the fuel via spark-ignition or compression ignition combustion into mechanical work to power a vehicle or other device.
(Added 2012)

**1.34. International Organization for Standardization (ISO). (www.iso.org)** – An independent international organization with a membership of national standards and bodies.
(Added 2018)

**1.35. Kerosene.** – (or “Kerosine”) A refined middle distillate suitable for use as a fuel for heating or illuminating.
(Amended 2018)

**1.36. Lead Substitute.** – An EPA-registered gasoline additive suitable, when added in small amounts to fuel, to reduce or prevent exhaust valve recession (or seat wear) in automotive spark-ignition internal combustion engines designed to operate on leaded fuel.

**1.37. Lead Substitute Engine Fuel.** – For labeling purposes, a gasoline or gasoline-oxygenate blend that contains a "lead substitute".

**1.38. Liquefied Natural Gas (LNG).** – Natural gas that has been liquefied at – 162 °C (– 260 °F) and stored in insulated cryogenic tanks for use as an engine fuel.
(Amended 2016)

**1.39. Liquefied Petroleum Gas (LPG).** – A mixture of normally gaseous hydrocarbons, predominantly propane, or butane, or both, that has been liquefied by compression or cooling, or both to facilitate storage, transport, and handling.

**1.40. Low Temperature Operability.** – A condition which allows the uninterrupted operation of a diesel engine through the continuous flow of fuel throughout its fuel delivery system at low temperatures. Fuels with adequate low temperature operability characteristics have the ability to avoid wax precipitation and clogging in fuel filters.
(Added 1998) (Amended 1999)

**1.41. Lubricant.** – Oil. (See 1.47. Oil below.)
(Added 2008)

**1.42. Lubricity.** – A qualitative term describing the ability of a fluid to affect friction between, and wear to, surfaces in relative motion under load.
(Added 2003)

**1.43. M85 Fuel Methanol.** – A blend of methanol and hydrocarbons of which the methanol portion is nominally 70 to 85 volume percent.

**1.44. Motor Octane Number.** – A numerical indication of a spark-ignition engine fuel's resistance to knock obtained by comparison with reference fuels in a standardized ASTM D2700, "Standard Test Method for Motor Octane Number of Spark-Ignition Engine Fuel.

**1.45. Motor Oil.** – An oil that reduces friction and wear between the moving parts within a reciprocating internal combustion engine and also serves as a coolant. For the purposes of this regulation, "vehicle motor oil" refers to motor oil which is intended for use in light- to heavy-duty vehicles including cars, sport utility vehicles, vans, trucks, buses, and off-road farming and construction equipment. For the purposes of this regulation, "recreational motor oil" refers to motor oil which is intended for use in four-stroke cycle engines used in motorcycles, ATVs, and lawn and garden equipment. For the purposes of this regulation, motor oil also means engine oil.
(Added 2004)

**1.46. MTBE.** – Methyl tertiary-butyl ether, the chemical compound $(CH_3)_3COCH_3$ $[C_5H_{12}O]$.
(Added 2008) (Amended 2018)

**1.47. Oil.** – A motor oil, engine oil, and/or gear oil.
(Added 2004)

**1.48. Oxygen Content of Gasoline.** – The percentage of oxygen contained in a gasoline.
(Amended 2018)

**1.49. Oxygenate.** – An oxygen-containing, ashless, organic compound, such as an alcohol or ether, which can be used as a fuel or fuel supplement.

**1.50. Racing Gasoline.** – A specialty fuel typically used in non-road racing vehicles that is generally of lower volatility, has a narrower boiling range and a higher octane rating than gasolines made for use in conventional passenger vehicles.

(Added 2018)

**1.51. Research Octane Number.** – A numerical indication of a spark-ignition engine fuel's resistance to knock obtained by comparison with reference fuels in a standardized in the latest version of ASTM D2699, "Standard Test Method for Research Octane Number of Spark-Ignition Engine Fuel."

(Amended 2018)

**1.52. SAE (SAE International).** (**www.sae.org**) – A technical organization for engineers, scientists, technicians, and others who cooperate closely in the engineering, design, manufacture, use, and maintainability of self-propelled vehicles.

**1.53. Thermal Stability.** – The ability of a fuel to resist the thermal stress which is experienced by the fuel when exposed to high temperatures in a fuel delivery system. Such stress can lead to formation of insoluble gums or organic particulates. Insolubles (e.g., gums or organic particulates) can clog fuel filters and contribute to injector deposits.

(Added 1998) (Amended 1999 and 2018)

**1.54. Tractor Hydraulic Fluid.** – A product intended for use in tractors with a common sump for the transmission, final drives, wet brakes, axles, and hydraulic system.

(Added 2019)

**1.55. Unleaded.** – When used in conjunction with "engine fuel" or "gasoline" means any gasoline or gasoline-oxygenate blend to which no lead or phosphorus compounds have been intentionally added and which contains not more than 0.013 g of lead per liter (0.05 g lead per U.S. gallon) and not more than 0.0013 g of phosphorus per liter (0.005 g phosphorus per U.S. gallon).

**1.56. Wholesale Purchaser Consumer.** – Any person who is an ultimate consumer of gasoline, fuel methanol, ethanol flex fuel, diesel fuel, biodiesel, biodiesel blends, fuel oil, kerosene, aviation turbine fuels, natural gas, compressed natural gas, or liquefied petroleum gas and who purchases or obtains the product from a supplier and receives delivery of that product into a storage tank.

(Added 1998) (Amended 1999 and 2014)

## Section 2. Standard Specifications

### 2.1. Gasoline and Gasoline-Oxygenate Blends.

**2.1.1. Gasoline and Gasoline-Oxygenate Blends (as defined in this regulation).** – Shall meet the latest version of ASTM D4814, "Standard Specification for Automotive Spark-Ignition Engine Fuel" except for the permissible offsets for ethanol blends as provided in Section 2.1.2. Gasoline-Ethanol Blends.

(a) The maximum concentration of oxygenates contained in gasoline-oxygenate blends shall not exceed those permitted by the EPA under Section 211 of the Clean Air Act and applicable waivers.

(Added 2009) (Amended 2018)

**2.1.2. Gasoline-Ethanol Blends. –** When gasoline is blended with denatured fuel ethanol, the denatured fuel ethanol shall meet the latest version of ASTM D4806, "Standard Specification for Denatured Fuel Ethanol for Blending with Gasolines for Use as Automotive Spark-Ignition Engine Fuel," and the blend shall meet the latest version of ASTM D4814, "Standard Specification for Automotive Spark-Ignition Engine Fuel," with the following permissible exceptions:

(a) The maximum vapor pressure shall not exceed the latest version of ASTM D4814, "Standard Specification for Automotive Spark-Ignition Engine Fuel," limits by more than 1.0 psi for blends from June 1 through September 15 as allowed by EPA per Gasoline RVP Standards **40 C.F.R. § 1090.215(b)**.

(Amended 2016, 2018, 2019, and 2022)

***NOTE:*** The values shown above appear only in U.S. customary units to ensure that the values are identical to those in ASTM standards and the Environmental Protection Agency regulation.

(Added 2009) (Amended 2012 and 2016)

**2.1.3. Minimum Antiknock Index (AKI).** – The AKI shall not be less than the AKI posted on the product dispenser or as certified on the invoice, bill of lading, shipping paper, or other documentation;

**2.1.4. Minimum Motor Octane Number.** – The minimum motor octane number shall not be less than 82 for gasoline with an AKI of 87 or greater;

**2.1.5. Lead Substitute Gasoline.** – Gasoline and gasoline-oxygenate blends sold as "lead substitute" gasoline shall contain a lead substitute which provides protection against exhaust valve seat recession equivalent to at least 0.026 g of lead per liter (0.10 g per U.S. gallon).

**2.1.5.1. Documentation of Exhaust Valve Seat Protection.** – Upon the request of the Director, the lead substitute additive manufacturer shall provide documentation to the Director that demonstrates that the treatment level recommended by the additive manufacturer provides protection against exhaust valve seat recession equivalent to or better than 0.026 g/L (0.1 g/gal) lead. The Director may review the documentation and approve the lead substitute additive before such additive is blended into gasoline. This documentation shall consist of:

(a) test results as published in the Federal Register by the EPA Administrator as required in Section 211(f)(2) of the Clean Air Act; or

(b) until such time as the EPA Administrator develops and publishes a test procedure to determine the additive's effectiveness in reducing valve seat wear, test results and description of the test procedures used in comparing the effectiveness of 0.026 g per liter lead and the recommended treatment level of the lead substitute additive shall be provided.

**2.1.6. Blending.** – Leaded, lead substitute, and unleaded gasoline-oxygenate blends shall be blended according to the EPA "substantially similar" rule or an EPA waiver for unleaded fuel.

(Amended 2009)

**2.2. Diesel Fuel.** – Shall meet the following requirements, based on the biodiesel concentration of the fuel:

(a) Diesel fuel that contains less than or equal to 5 % by volume biodiesel shall meet the latest version of ASTM D975, "Standard Specifications for Diesel Fuels" and shall be sold as diesel fuel.

(b) Diesel fuel that contains biodiesel in concentrations greater than or equal to 6 % by volume and less than or equal to 20 % by volume shall meet the latest version of ASTM D7467, "Standard Specifications for Diesel Fuel Oil, Biodiesel Blend (B6 to B20)."

(c) Diesel fuel that contains greater than or equal to 21 % by volume biodiesel shall be a blend of fuel from (a) or (b) and biodiesel meeting the latest version of ASTM D6751, "Standard Specification for Biodiesel Fuel Blend Stock (B100) for Middle Distillate Fuels.".
(Amended/Added 2024)

(d) Only fuel additive registered with the U.S. EPA may be used to additize diesel fuel.

(Amended 2003**,** 2018, and 2024)

**2.2.1. Premium Diesel Fuel.** – All diesel fuels identified on retail dispensers as premium, super, supreme, or premier must conform to the following minimum requirements:

(a) **Cetane Number.** – A minimum cetane number of 47.0 as determined by the latest version of ASTM D613, "Standard Test Method for Cetane Number of Diesel Fuel Oil."

***NOTE:*** ASTM D613, "Standard Test Method for Cetane Number of Diesel Fuel Oil" is the referee method; however, the following methods can be used to determine cetane number: the latest version of ASTM D6890, "Standard Test Method for Determination of Ignition Delay and Derived Cetane Number" (DCN) of Diesel Fuel Oils by Combustion in a Constant Volume Chamber"; and ASTM D7668, "Standard Test Method for Determination of Derived Cetane Number (DCN) of Diesel Fuel Oils–Ignition Delay and Combustion Delay Using a Constant Volume Combustion Chamber Method."
(Note Added 2019)

(b) **Low Temperature Operability.** – A cold flow performance measurement which meets the latest version of ASTM D975, "Standard Specification for Diesel Fuel," tenth percentile minimum ambient air temperature charts and maps by the latest version of either ASTM D2500, "Standard Test Method for Cloud Point of Petroleum Products and Liquid Fuels" or ASTM D4539, "Standard Test Method for Filterability of Diesel Fuels by Low Temperature Flow Test, (LTFT)." The latest version of ASTM D6371, "Standard Test Method for Cold Filter Plugging Point of Diesel and Heating Fuels" may be used when the test results are a maximum of 6 °C below the Cloud Point. Low temperature operability is only applicable October 1 to March 31 of each year.

(c) **Lubricity.** – A maximum wear scar diameter of 460 micrometers as determined by the latest version ASTM D6079, "Standard Test Method for Evaluating Lubricity of Diesel Fuels by the High-Frequency Reciprocating Rig (HFRR)."

***NOTE:*** The latest version of ASTM D6079, "Standard Test Method for Evaluating Lubricity of Diesel Fuels by the High-Frequency Reciprocating Rig (HFRR)" is the referee method; however, the latest version of ASTM D7688, "Standard Test Method for Evaluating Lubricity of Diesel Fuels by the High-Frequency Reciprocating Rig (HFRR) by Visual Observation" can be used.
(Note Added 2019)

(d) **Corrosion.** – A minimum rating of B+ as determined by the latest version of NACE TM0172, "Determining Corrosive Properties of Cargoes in Petroleum Product Pipelines."

***NOTE:*** The latest version of NACE TM0172 "Determining Corrosive Properties of Cargoes in Petroleum Product Pipelines" is the referee method. The latest version of ASTM D7548 "Standard Test Method for Determination of Accelerated Iron Corrosion in Petroleum Products" can be used.
(Added 2019)

(e) **Filter Blocking Tendency (FBT).** – A maximum of 2.2 by the latest version of ASTM D2068, "Standard Test Method for Determining Filter Blocking Tendency", following procedure B.
(Added 2019)

(f) **Injector Deposit Control.** – Maximum power loss in keep-clean mode of 2 % by the latest version of Coordinating European Council, CEC F-98-08, "Direct Injection, Common Rail Diesel Engine Nozzle Coking Test."
(Added 2019)

**2.2.2. Use of Other Diesel Terminology.** – For any terms other than premium, super, supreme, or premier included in the diesel fuel product or grade name and/or advertisements and claims displayed on dispensers, pump toppers, pole signs and bollard signs which imply improved performance, the product must have a clearly-defined fuel property with a substantiated functional benefit. Such property must be measurable

utilizing industry accepted test methodologies developed by recognized standards organizations such as ASTM, SAE, and CEC to allow verification of the improved performance.

(Added 2019)

(Amended 2003 and 2019)

**2.3. Aviation Turbine Fuels.** – Shall meet the latest version of the following standards as appropriate:

(a) ASTM D1655, "Standard Specification for Aviation Turbine Fuels."

(b) ASTM D6615, "Standard Specification for Jet B Wide-Cut Aviation Turbine Fuel."

(c) ASTM D7223, "Standard Specification for Aviation Certification Turbine Fuel."

(d) ASTM D7566, "Standard Specification for Aviation Turbine Fuel Containing Synthesized Hydrocarbons."

(Amended 2018)

**2.4. Aviation Gasoline.** – Shall meet the latest version of one of the following as appropriate:

(a) ASTM D910, "Standard Specification Leaded for Aviation Gasolines."

(b) ASTM D6227, "Standard Specification for Unleaded Aviation Gasoline Containing a Non-hydrocarbon Component."

(c) ASTM D7547, "Standard Specification for Hydrocarbon Unleaded Aviation Gasoline."

(Amended 2008 and 2018)

**2.5. Fuel Oils.** – Shall meet the latest version of ASTM D396, "Standard Specification for Fuel Oils."

**2.6. Kerosene (Kerosine).** – Shall meet the latest version of ASTM D3699, "Standard Specification for Kerosine."

**2.7. Denatured Fuel Ethanol.** – Intended for blending with gasoline shall meet the latest version of ASTM D4806, "Standard Specification for Denatured Fuel Ethanol for Blending with Gasolines for Use as Automotive Spark-Ignition Engine Fuel."

(Amended 2014)

**2.8. Liquefied Petroleum (LP) Gases.** – Shall meet the latest version ASTM D1835, "Standard Specification for Liquefied Petroleum (LP) Gases."

***NOTE:*** Also reference Gas Processors Association 2140, Liquefied Petroleum Gas Specification and Test Methods.

**2.9. Liquefied Natural Gas (LNG) Vehicle Fuel.** – Shall meet the latest version of ASTM D8080 "Standard Specification for Compressed Natural Gas (CNG) and Liquefied Natural Gas (LNG) Used as a Motor Vehicle Fuel."

(Added 2018) (Amended 2024)

**2.10. Compressed Natural Gas (CNG).** – Shall meet the latest version of ASTM D8080 "Standard Specification for Compressed Natural Gas (CNG) and Liquefied Natural Gas (LNG) Used as a Motor Vehicle Fuel."

(Amended 2024)

**2.11. Natural Gas blended with hydrogen as a Motor Vehicle Fuel. -** Shall meet the latest version of ASTM D8487 "Standard Specification for Natural Gas, Hydrogen Blends for Use as a Motor Vehicle Fuel."

(Added 2024)

**2.12. Ethanol Flex Fuel.** – Ethanol flex fuel is covered by one of two ASTM standards based on the ethanol concentration of blend:

(a) Ethanol flex fuel containing 51 to 83 volume percent ethanol shall meet the latest version of ASTM D5798, "Standard Specification for Ethanol Fuel Blends for Flexible Fuel Automotive Spark-Ignition Engines"; and

(b) Ethanol flex fuel containing 16 to 50 volume percent ethanol shall be blended, stored, delivered and offered for consumption in accordance with the latest version of ASTM D7794, "Standard Practice for Blending Mid-Level Ethanol Fuel Blends for Flexible Fuel Vehicles with Automotive Spark-Ignition Engines."

(Amended 2018)

(Added 1997) (Amended 2014 and 2018)

**2.13. M85 Fuel Methanol.** – Shall meet the latest version of ASTM D5797, "Standard Specification for Methanol Fuel Blends (M51-M85) for Methanol-Capable Automotive Spark Ignition Engines."

(Added 1997)

**2.14. Racing Gasoline.** – Shall meet the following requirements:

(a) the Minimum Antiknock Index (AKI) shall not be less than the AKI posted on the product dispenser or as certified on the invoice, bill of lading, shipping paper, or other documentation.

(b) the product specification limits shall be those as declared by the manufacturer's product specifications. Upon the request of the Director, each supplier of racing gasoline shall provide a copy of the manufacturer's product specifications.

(Added 2018)

**2.15. Engine (Motor) Oil.** – Shall not be sold or distributed for use unless the product conforms to the following specifications:

(a) performance claims made regarding active performance categories, as listed on the label shall be evaluated against the latest version of SAE J183, "Engine Oil Performance and Engine Service Classification," API 1509 "Engine Oil Licensing and Certification System," European Automobile Manufacturers' Association (ACEA), "European Oil Sequences," or other "Vehicle or Engine Manufacturer Standards" as applicable;

(b) performance claims made regarding any obsolete performance categories, as listed on the label, shall be determined to meet the requirements of Section 3.13.1.3.2. "Inactive or Obsolete Service Categories" by displaying the appropriate cautionary labeling; and

(c) the product shall meet its labeled viscosity grade specification as specified in the latest version of SAE J300, "Engine Oil Viscosity Classification."

(Added 2004) (Amended 2014 and 2021)

**2.16. Products for Use in Lubricating Manual Transmissions, Gears, or Axles.** – Shall not be sold or distributed for use in lubricating manual transmissions, gears, or axles unless the product conforms to the following specifications:

(a) it is labeled with one or more of the service designations found in the latest version of the SAE Information Report on axle and manual transmission lubricants, SAE J308, and API Publication 1560, and meets all applicable requirements of those designations;

(b) the product shall meet its labeled viscosity grade classification as specified in the latest version of SAE J306; and

(c) the product shall be free from water and suspended matter when tested by means of centrifuge, in accordance with the latest version of ASTM D2273, "Standard Test Method for Trace Sediment in Lubricating Oils."

(Added 2004)

**2.17. Products for Use in Lubricating Transmissions.** – Transmission fluids shall meet the original equipment manufacturer's requirements for those transmissions or have demonstrated performance claims to be suitable for use in those transmissions. Where a fluid can be licensed against an original equipment manufacturer's specification, evidence of current licensing by the marketer is acceptable documentation of performance against the specification. In the absence of a license from the original equipment manufacturer, adherence to the original equipment manufacturer's recommended requirements shall be assessed after testing per relevant methods available to the lubricants industry and the state regulatory agency. Suitability for use claims shall be based upon appropriate field, bench, and/or transmission rig testing. Any manufacturer of a transmission fluid making suitable-for-use claims shall provide, upon request by a duly authorized representative of the Director, credible documentation of such claims. If the product performance claims published by a blender and/or marketer are based on the claim(s) of one or more additive suppliers, documentation of the claims may be requested in confidence by a duly authorized representative of the Director. Supporting data may be supplied directly to the Director's office by the additive supplier(s).

(Added 2004) (Amended 2017)

**2.17.1. Conformance. –** Conformance of a fluid per Section 2.14. Products for Use in Lubricating Transmissions does not absolve the obligations of a fluid licensee with respect to the licensing original equipment manufacturer or the original equipment manufacturer's licensing agent(s), where relevant.

(Added 2017)

**2.17.2. Transmission Fluid Additives.** – Any material offered for sale or sold as an additive to transmission fluids shall be compatible with the transmission fluid to which it is added and shall meet all performance claims as stated on the label or published on any website referenced by the label. Any manufacturer of any such product sold in this state shall provide, upon request by a duly authorized representative of the Director, documentation of any claims made on their product label or published on any website referenced by the label.

(Added 2017)

**2.18. Biodiesel Blendstock.** – Biodiesel intended for blending with diesel fuel shall meet the latest version of ASTM D6751, "Standard Specification for Biodiesel Fuel Blend Stock (B100) for Middle Distillate Fuels." Any blend stock less than 99 % by volume biodiesel (no more than 1 % by volume diesel fuel) shall not be used as a commercial blend stock for biodiesel blends without the permission of the Director.

(Added 2004) (Amended 2018)

**2.19. Butanol for Blending with Gasoline.** – Shall meet the latest version of ASTM D7862, "Standard Specifications for Butanol for Blending with Gasoline for Use as Automotive Spark-Ignition Engine Fuel."

(Added 2018)

**2.20. Dimethyl Ether for Fuel Purposes.** – Shall meet the latest version of ASTM D7901, "Standard Specifications for Dimethyl Ether for Fuel Purposes."

(Added 2018)

**2.21. Hydrogen Fuel.** – Shall meet the latest version of SAE J2719, "Hydrogen Fuel Quality for Fuel Cell Vehicles."

(Added 2012)

**2.22. Diesel Exhaust Fluid (DEF).** – Shall meet the latest version of the ISO 22241, "Diesel engines – NOx reduction agent AUS 32."

(Added 2014)

**2.23. Products for Use in Lubricating Tractors.** – Tractor hydraulic fluids shall meet at least one current and/or verifiable original equipment manufacturer's specifications for respective tractors. A specification is deemed verifiable if all necessary bench and laboratory tests are available to verify the fluid's ability to pass those requirements set out by the original equipment manufacturer. A list of current and verifiable original equipment manufacturer's specifications is located on the NCWM website (**www.ncwm.com**). Where a fluid can be licensed against an original equipment manufacturer's specification, evidence of current licensing by the marketer is acceptable documentation of performance against the specification. In the absence of a license from the original equipment manufacturer, adherence to the original equipment manufacturer's specifications shall be assessed after testing per relevant methods available to the lubricants industry and the regulatory agency. Suitability for use claims shall be based upon appropriate field, bench, and/or rig testing. Any manufacturer of a tractor hydraulic fluid making suitable for use claims shall provide, upon request by a duly authorized representative of the Director, credible documentation of such claims. If the product performance claims published by a blender and/or marketer are based on the claim(s) of one or more additive suppliers, documentation of the claims shall be provided upon request to a duly authorized representative of the Director. Supporting data shall, upon request, be supplied directly to the Director's office by the additive supplier(s).

(Amended 2021)

**2.23.1. Conformance.** – Conformance of a fluid per Section 2.22. Products for Use in Lubricating Tractors does not absolve the obligations of a fluid licensee with respect to the licensing original equipment manufacturer or the original equipment manufacturer's licensing agent(s), where relevant.

**2.23.2. Tractor Hydraulic Fluid Additives.** – Any material offered for sale or sold as an additive to tractor hydraulic fluids shall be compatible with the tractor hydraulic fluid to which it is added and shall meet all performance claims as stated on the label or published on any website referenced by the label. Any manufacturer of any such product sold shall provide, upon request by a duly authorized representative of the Director, documentation of any claims made on their product label or published on any website referenced by the label.

(Added 2019) (Amended 2021)

## Section 3. Classification and Labeling for Sale

### 3.1. General Considerations.

**3.1.1. Documentation.** – When products regulated by this rule are sold, an invoice, bill of lading, shipping paper, or other documentation must accompany each delivery other than a retail sale. This document must identify the quantity, the name of the product, the particular grade of the product, the applicable automotive fuel rating, and oxygenate type and content (if applicable), the name and address of the seller and buyer, and the date and time of the sale. Documentation must be retained at the retail establishment for a period not less than one year.

(Amended 2008)

**3.1.2. Retail Dispenser Labeling.** – All retail dispensing devices must identify conspicuously the type of product (exception: gasoline and gasoline-oxygenate blends), the particular grade of the product (exception: No. 2 Diesel), and the applicable automotive fuel rating.

(Amended 2018)

**3.1.3. Grade Name.** – The sale of any product under any grade name that indicates to the purchaser that it is of a certain automotive fuel rating or ASTM grade shall not be permitted unless the automotive fuel rating or grade indicated in the grade name is consistent with the value and meets the requirements of Section 2, Standard Specifications.

**3.1.4. Nozzle Requirements for Automotive Gasoline, Gasoline-Oxygenate Blends, and Diesel Fuel Dispensers.** – Each retail dispensing device from which fuel products are sold shall be equipped with a nozzle

spout having a diameter that conforms with the latest version of SAE J285, "Dispenser Nozzle Spouts for Liquid Fuel Intended for Use with Spark-Ignition and Compression Ignition Engines."

(Added 2018)

(Amended 2018)

### 3.2. Automotive Gasoline and Automotive Gasoline-Oxygenate Blends (Including Racing Gasoline).

**3.2.1. Posting of Antiknock Index Required.** – Automotive gasoline and automotive gasoline-oxygenate blends shall post the minimum antiknock index in accordance with applicable regulations, Automotive Fuel Ratings, Certification and Posting Rule, **16 C.F.R. § 306** issued pursuant to the "Petroleum Marketing Practices Act," as amended.

(Amended 2018)

**3.2.2. Use of Lead Substitute Must be Disclosed.** – Each dispensing device from which gasoline or gasoline-oxygenate blends containing a lead substitute is dispensed shall display the following legend: "Contains Lead Substitute." The lettering of this legend shall not be less than 12.7 mm (1/2 in) in height and the color of the lettering shall be in definite contrast to the background color to which it is applied.

**3.2.3. Prohibition of Terms.** – It is prohibited to use specific terms to describe a grade of gasoline or gasoline-oxygenate blend unless it meets the minimum antiknock index requirement shown in Table 1. Minimum Antiknock Index Requirements.

**Table 1. Minimum Antiknock Index Requirements**

| Term | Minimum Antiknock Index | |
|---|---|---|
| | ASTM D4814 Altitude Reduction Areas IV and V | All Other ASTM D4814 Areas |
| Premium, Super, Supreme, High Test | 90 | 91 |
| Midgrade, Plus | 87 | 89 |
| Regular, Unleaded (alone) | 85 | 87 |
| Economy | -- | 86 |

(Table 1. Amended 1997 and 2018)

**3.2.4. Method of Retail Sale.** – Type of Oxygenate must be disclosed. All automotive gasoline or automotive gasoline-oxygenate blends, or racing gasoline kept, offered, or exposed for sale, or sold at retail containing more than one volume percent oxygenate shall be identified as "with" or "containing" (or similar wording) the predominant oxygenate in the engine fuel. For example, the label may read "contains ethanol" or "with methyl *tertiary*-butyl ether (MTBE)." The oxygenate contributing the largest mass percent oxygen to the blend shall be considered the predominant oxygenate. Where mixtures of only ethers are present, the retailer may post the predominant oxygenate followed by the phrase "or other ethers" or alternatively post the phrase "contains MTBE or other ethers." In addition, gasoline-methanol blends containing more than 0.3 % by volume methanol shall be identified as "with" or "containing" methanol. This information shall be posted on the upper 50 % of the dispenser front panel in a position clear and conspicuous from the driver's position in a type at least 12.7 mm (1/2 in) in height, 1.5 mm (1/16 in) stroke (width of type).

(Amended 1996 and 2018)

**3.2.5. Product Transfer Document (PTD) Requirements.** – The retailer shall be provided information that complies with requirements for gasoline, gasoline additives, and gasoline regulated blendstocks, **40 C.F.R. § 1090.1110** when the fuel contains ethanol. Additional declarations may be required for specific fuels

(a) For fuels containing multiple oxygenates or oxygenates other than ethanol, information a declaration of the predominant oxygenate or combination of oxygenates present in concentrations sufficient to yield an oxygenate content of at least 1.0 % by volume in the fuel. Where mixtures of only ethers are present, the fuel supplier may identify either the predominant oxygenate in the fuel (i.e., the oxygenate contributing the largest mass percent oxygen) or alternatively, use the phrase "contains MTBE or other ethers."

(Added 2014) (Amended 2022 and 2023)

(b) For fuels containing more than 0.3 % by volume methanol a declaration shall be identified as "with" or "containing" methanol.

(Added 2014) (Amended 2018 and 2023)

(Amended 1996, 2014, 2018, 2022, and 2023)

**3.2.6. EPA Labeling Requirements.** – Retailers and wholesale purchaser-consumers of gasoline shall comply with the EPA pump labeling requirements for gasoline containing greater than 10 volume percent (v %) up to 15 volume percent (v %) ethanol (E15) under E15 labeling provisions, **40 C.F.R. § 1090.1510**. (For additional information, refer to Section 3.8.2. FTC Labeling Requirements.)

(Added 2012) (Amended 2018 and 2022)

(Amended 2018 and 2022)

### 3.3. Diesel Fuel.

#### 3.3.1. Labeling of Retail Dispensers.

**3.3.1.1. FTC Automotive Fuel Rating.** – Diesel fuel shall be labeled with its automotive fuel rating in accordance with Automotive Fuel Ratings, Certification and Posting Rule 16 C.F.R. 306.

**3.3.1.2. Biodiesel Concentrations of 21 % or Greater.** – When diesel fuel that contains biodiesel concentrations greater than or equal to 21 % by volume is offered by sale, each side of the dispenser where fuel can be delivered shall have a label conspicuously placed that states "Consult Vehicle Manufacturer Fuel Recommendations." The lettering of this legend shall not be less than 6 mm (1/4 in) in height by 0.8 mm (1/32 in) stroke; block style letters and the color shall be in definite contrast to the background color to which it is applied.

**3.3.1.3. Labeling of Grade Required.** – Diesel Fuel other than No 2-D shall be identified by grade.

(Added 2024)

#### 3.3.2. Documentation for Dispenser Labeling Purposes.

**3.3.2.1. Delivery Documentation.** – The retailer shall be provided, at the time of delivery of the fuel, a declaration of the volume percent biodiesel and or volume percent of biomass-based diesel on an invoice, bill of lading, shipping paper, or other documents. This documentation is for dispenser labeling purposes only; it is the responsibility of any potential blender to determine the amount of biodiesel in the diesel fuel prior to blending.

(Added 2018) (Amended 2024)

**3.3.2.2. Delivery Documentation for Premium Diesel or Other Diesel Terminology Claims.** – Before or at the time of delivery of the diesel fuel, the retailer or the wholesale purchaser-consumer shall be provided on an invoice, bill of lading, shipping paper, or other documentation a declaration of all performance properties that qualifies the fuel as premium diesel fuel as required in Section 2.2.1. Premium Diesel Fuel and 2.2.2 Use of Other Diesel Terminology.

(Added 1998) (Amended 1999 and 2024)

(Amended 1998, 1999, 2008, 2012, 2018, and 2024)

### 3.4. Aviation Turbine Fuels.

**3.4.1. Labeling of Grade Required.** – Aviation turbine fuels shall be identified by the grade terms contained in applicable ASTM Standard Specifications. (See EI 1542 for additional details.)

(Amended 2018)

**3.4.2. NFPA Labeling Requirements Also Apply.** [see ***Section 3.4.2. NOTE***] – Each dispenser or airport fuel truck dispensing aviation turbine fuels shall be labeled in accordance with the latest version of National Fire Protection Association (NFPA 407), "Standard for Aircraft Fuel Servicing."

***Section 3.4.2. NOTE:*** For example, NFPA 407, 2017 edition: Section 6.1.11.3. Signage. Each aircraft fuel servicing vehicle or cart shall have signage viewable from all sides of the vehicle. Signs shall have letters at least 75 mm (3 in) high. Signs shall be of a color contrasting sharply with the background for visibility. The words "FLAMMABLE," "NO SMOKING," and the name of the product carried, such as JET A, JET B, GASOLINE, or AVGAS shall appear on each sign. (***NOTE:*** Refer to the latest version of NFPA 407.)

(Amended 2018)

### 3.5. Aviation Gasoline.

**3.5.1. Labeling of Grade Required.** – Aviation gasoline shall be identified by the grade terms contained in the latest version of ASTM Standard Specifications. (See EI 1542, "Identification Markings for Dedicated Aviation Fuel Manufacturing and Distribution Facilities, Airport Storage and Mobile Fueling Equipment" for additional detail.)

(Amended 2008 and 2018)

**3.5.2. NFPA Labeling Requirements Also Apply.** [see ***Section 3.4.2. NOTE***] – Each dispenser or airport fuel truck dispensing aviation gasoline shall be labeled in accordance with the most recent edition of National Fire Protection Association (NFPA) 407, "Standard for Aircraft Fuel Servicing."

(Amended 2018)

### 3.6. Fuel Oils.

**3.6.1. Labeling of Grade Required.** – Fuel Oil shall be identified by the grades contained in the latest version of ASTM D396, "Standard Specification for Fuel Oils."

(Amended 2018)

**3.6.2. Retail Fuel Oil.** – Dispensers shall display the following legend:

"Warning – Not Suitable for Use in Unvented Heaters Requiring No. 1-K Kerosene."

The lettering of this legend shall not be less than 12.7 mm (1/2 in) in height by 1.5 mm (1/16 in) strokes (width of type), block style letters, and the color of lettering shall be in definite contrast to the background color to which it is applied.

(Added 2018)

(Amended 2008 and 2018)

### 3.7. Kerosene (Kerosine).

**3.7.1. Labeling of Grade Required.** – Kerosene shall be identified by the grades No. 1-K or No. 2-K.

**3.7.2. Additional Labeling Requirements.** – Each retail dispenser of kerosene shall be labeled as 1-K Kerosene or 2-K. In addition, No. 2-K dispensers shall display the following legend:

"Warning – Not Suitable for Use in Unvented Heaters Requiring No. 1-K"

The lettering of this legend shall not be less than 12.7 mm (1/2 in) in height by 1.5 mm (1/16 in) stroke; block style letters and the color of lettering shall be in definite contrast to the background color to which it is applied.

**3.8. Ethanol Flex Fuel.**

**3.8.1. How to Identify Ethanol Flex Fuel.** – Ethanol flex fuel shall be identified as Ethanol Flex Fuel or EXX Flex Fuel.

**3.8.2. FTC Labeling Requirements.** – Ethanol flex fuel shall be identified and labeled in accordance with the Federal Trade Commission, Automotive Fuel Ratings, Certification and Posting, **16 C.F.R. § 306**, as amended. (For additional information, see to Section 3.2.6. EPA Labeling Requirements.)
(Amended 2007, 2008, 2014, and 2018)

**3.9. M85 Fuel Methanol.**

**3.9.1. How to Identify M85 Fuel Methanol.** – Fuel methanol shall be identified as M85.

**Example:**
M85

**3.9.2. Retail Dispenser Labeling.**

(a) Fuel methanol shall be labeled with its automotive fuel rating in accordance with Automotive Fuel Ratings, Certification and Posting, **16 C.F.R. § 306**.

**Example:**
M85 Methanol

(b) A label shall be posted which states "For Use in Vehicles Capable of Using M85 Only." This information shall be clearly and conspicuously posted on the upper 50 % of the dispenser front panel in a type of at least 12.7 mm (1/2 in) in height, 1.5 mm (1/16 in) stroke (width of type).

(Amended 2008)

**3.10. Liquefied Petroleum Gas (LPG).**

**3.10.1. How LPG is to be Identified.** – Liquefied petroleum gases shall be identified by grades Commercial Propane, Commercial Butane, Commercial PB Mixtures or Special-Duty Propane (HD5).

**3.10.2. Retail Dispenser Labeling.** – Each retail dispenser of LPGs shall be labeled as "Commercial Propane," "Commercial Butane," "Commercial PB Mixtures," or "Special-Duty Propane (HD5)."

**3.10.3. Additional Labeling Requirements.** – LPG shall be labeled with its automotive fuel rating in accordance with Automotive Fuel Ratings, Certification and Posting, **16 C.F.R. § 306**.

**3.10.4. NFPA Labeling Requirements Also Apply.** (Refer to the most recent edition of NFPA 58, "Liquified Petroleum Gas Code")

**3.11. Compressed Natural Gas (CNG).**

**3.11.1. How Compressed Natural Gas is to be Identified.** – For the purposes of this regulation, compressed natural gas shall be identified by the term "Compressed Natural Gas" or "CNG."

**3.11.2. Retail Sales of Compressed Natural Gas Sold as a Vehicle Fuel.**

**3.11.2.1. Retail Dispenser Labeling.**

**3.11.2.1.1. Identification of Product.** – Each retail dispenser of CNG shall be labeled as "Compressed Natural Gas."

**3.11.2.1.2. Non-Liquid Alternative Vehicle Fuel Rating.** – CNG shall be labeled with its non-liquid alternative vehicle fuel rating in accordance with Labeling Requirements for Alternative Fuels and Alternative Fueled Vehicles, **16 C.F.R. § 309**.

(Added 2018)

**3.11.2.1.3. NFPA Labeling.** – NFPA Labeling requirements also apply. (refer to NFPA 52, "Vehicular Natural Gas Fuel Systems Code")

**3.11.2.2. Nozzle Requirements for CNG.** – CNG fueling nozzles shall comply with ANSI/AGA/CGA NGV 1.

## 3.12. Liquefied Natural Gas (LNG).

**3.12.1. How Liquefied Natural Gas is to be Identified.** – For the purposes of this regulation, liquefied natural gas shall be identified by the term "Liquefied Natural Gas" or "LNG."

**3.12.2. Labeling of Retail Dispensers of Liquefied Natural Gas Sold as a Vehicle Fuel.**

**3.12.2.1. Identification of Product.** – Each retail dispenser of LNG shall be labeled as "Liquefied Natural Gas."

**3.12.2.2. Automotive Fuel Rating.** – LNG automotive fuel shall be labeled with its automotive fuel rating in accordance with Automotive Fuel Ratings, Certification and Posting, **16 C.F.R. § 306**.

**3.12.2.3. NFPA Labeling.** – NFPA Labeling requirements also apply. (Refer to NFPA 57, "Liquefied Natural Gas (LNG) Vehicular Fuel Systems Code")

## 3.13. Oil.

**3.13.1. Labeling of Vehicle Engine (Motor) Oil Required.**

**3.13.1.1. Viscosity.** – The label on any vehicle engine (motor) oil container, receptacle, dispenser, or storage tank and the invoice or receipt from service on an engine that includes the installation of bulk vehicle engine (motor) oil dispensed from a receptacle, dispenser, or storage tank shall contain the viscosity grade classification preceded by the letters "SAE" in accordance with the SAE International's latest version of SAE J300, "Engine Oil Viscosity Classification."

(Amended 2012 and 2014)

**3.13.1.2. Brand.** – The label on any vehicle engine (motor) oil container and the invoice or receipt from service on an engine that includes the installation of bulk vehicle engine (motor) oil dispensed from a receptacle, dispenser, or storage tank shall contain the name, brand, trademark, or trade name of the vehicle engine (motor) oil.

(Added 2012 and 2014)

**3.13.1.3. Engine Service Category.** – The label on any vehicle engine (motor) oil container, receptacle, dispenser or storage tank and the invoice or receipt from service on an engine that includes the installation of bulk vehicle engine (motor) oil dispensed from a receptacle, dispenser, or storage tank shall contain the engine service category, or categories, displayed in letters not less than 3.18 mm (1/8 in) in height, as defined by the latest version of SAE J183, "Engine Oil Performance and Engine Service Classification

(Other than "Energy Conserving")" API Publication 1509, "Engine Oil Licensing and Certification System," European Automobile Manufacturers Association (ACEA), "European Oil Sequences," or other "Vehicle or Engine Manufacturer Standards" as provided in Section 3.13.1.3.1.

(Amended 2012 and 2014)

**3.13.1.3.1. Vehicle or Engine Manufacturer Standard.** – The label on any vehicle engine (motor) oil container, receptacle, dispenser, or storage tank and the invoice or receipt from service on an engine that includes the installation of vehicle engine (motor) oil dispensed from a receptacle, dispenser, or storage tank shall identify the specific vehicle or engine manufacturer standard, or standards, met in letters not less than 3.18 mm (1/8 in) in height. If the vehicle (motor) oil only meets a vehicle or engine manufacturer standard, the label must clearly identify that the oil is only intended for use where specifically recommended by the vehicle or engine manufacturer.

(Added 2014)

**3.13.1.3.2. Inactive or Obsolete Service Categories.** – Whenever any vehicle engine (motor) oil in a container receptacle, dispenser, storage tank or in bulk does not meet an active API service category as defined by the latest version of SAE J183, "Engine Oil Performance and Engine Service Classification (Other than "Energy Conserving")," API Publication 1509, "Engine Oil Licensing and Certification System," European Automobile Manufacturers Association (ACEA), "European Oil Sequences," or other Vehicle or Engine Manufacturer Standards as approved in Section 2.33.1.3.1., Vehicle or Engine Manufacturer Standard the front or forward-facing label of such vehicle engine (motor) oil container, receptacle, dispenser, or storage tank and the invoice or receipt from service on an engine that includes the installation of bulk vehicle engine (motor) oil dispensed from a receptacle, dispenser or storage tank shall bear the plainly visible cautionary statement set forth in the latest version of SAE J183, Appendix A. Whenever any vehicle engine (motor) oil is declared obsolete by a vehicle or engine manufacturer, the front of forward-facing label of such vehicle engine (motor) oil container, receptacle, dispenser or storage tank and the invoice or receipt from service on an engine that includes the installation of bulk vehicle engine (motor) oil dispensed from a receptacle, dispenser, or storage tank shall bear the plainly visible cautionary statement required by the vehicle or engine manufacturer.

(Added 2012) (Amended 2014 and 2021)

**3.13.1.4. Tank Trucks or Rail Cars.** – Tank trucks, rail cars, and types of delivery trucks that are used to deliver bulk vehicle engine (motor) oil are not required to display the SAE viscosity grade and service category or categories on such tank trucks, rail cars, and other types of delivery trucks. In lieu of such display requirements the documentation defined in Section 3.13.1.5. Documentation shall be readily available for inspection.

(Added 2012) (Amend 2013, 2014 and 2021)

**3.13.1.5. Documentation.** – When the engine (motor) oil is sold in bulk, an invoice, bill of lading, shipping paper, or other documentation must accompany each delivery. This document must identify the quantity of bulk engine (motor) oil delivered as defined in Sections 3.13.1.1. Viscosity, grade as defined by the latest version of SAE J300, "Engine Oil Viscosity Classification;" 3.13.1.2. Brand; 3.13.1.3. Engine Service Category; the name and address of the seller and buyer; and the date and time of the sale. For inactive or obsolete service categories, the documentation shall also bear a plainly visible cautionary statement as required in Section 3.13.1.3.2. Inactive or Obsolete Service Categories. Documentation must be retained at the retail establishment for a period of not less than one year.

(Added 2013) (Amended 2014 and 2021)

(Amended 2012, 2013, 2014, and 2021)

**3.13.2. Labeling of Recreational Motor Oil.**

**3.13.2.1. Viscosity.** – The label on each container of recreational motor oil shall contain the viscosity grade classification preceded by the letters "SAE" in accordance with the SAE International's latest version of SAE J300, "Engine Oil Viscosity Classification."

**3.13.2.2. Intended Use.** – The label on each container of recreational motor oil shall contain a statement of its intended use in accordance with the latest version of SAE J300, "Engine Oil Viscosity Classification."

**3.13.3. Labeling of Gear Oil.**

**3.13.3.1. Viscosity.** – The label on each container of gear oil shall contain the viscosity grade classification preceded by the letters "SAE" in accordance with the SAE International's latest version of SAE J306, "Automotive Gear Lubricant Viscosity Classification" or SAE J300, "Engine Oil Viscosity Classification."

**3.13.3.1.1. Exception.** – Some automotive equipment manufacturers may not specify an SAE viscosity grade requirement for some applications. Gear oils intended to be used only in such applications are not required to contain an SAE viscosity grade on their labels.

**3.13.3.2. Service Category.** – The label on each container of gear oil shall contain the service category, or categories, in letters not less than 3.18 mm (1/8 in) in height, as defined by the latest version of SAE J308, "Axle and Manual Transmission Lubricants."

(Added 2004)

**3.14. Transmission Fluid.**

**3.14.1. Labeling and Identification of Transmission Fluid.** – Transmission fluid shall be labeled or identified as described below.

(Added 2017)

**3.14.1.1. Container Labeling.** – The label on a container of transmission fluid shall not contain any information that is false or misleading. Containers include bottles, cans, multi-quart or liter containers, pails, kegs, drums, and intermediate bulk containers (IBCs). In addition, each container of transmission fluid shall be labeled with the following:

(a) the brand name;

(b) the name and place of business of the manufacturer, packer, seller, or distributor;

(c) the words "Transmission Fluid," which may be incorporated into a more specific description of transmission type such as "Automatic Transmission Fluid" or "Continuously Variable Transmission Fluid";

(d) the primary performance claim or claims met by the fluid and reference to where any supplemental claims may be viewed (e.g., website reference). Performance claims include but are not limited to those set by original equipment manufacturers and standards setting organizations such as SAE and JASO and are acknowledged by reference; and

(e) an accurate statement of the quantity of the contents in terms of liquid measure.

(Amended 2017)

**3.14.1.2. Identification on Documentation.** – Transmission fluid sold in bulk shall be identified on the manufacturer, packer, seller or distributor invoice, bill of lading, shipping paper, or other documentation with the information listed below:

(a) the brand name;

(b) the name and place of business of the manufacturer, packer, seller, or distributor;

(c) the words "Transmission Fluid" which may be incorporated into a more specific description of transmission type such as "Automatic Transmission Fluid" or "Continuously Variable Transmission Fluid";

(d) the primary performance claim or claims met by the fluid or reference to where these claims may be viewed (e.g., website reference). Performance claims include but are not limited to those set by original equipment manufacturers and standards-setting organizations such as SAE and JASO and are acknowledged by reference; and

(e) an accurate statement of the quantity of the contents in terms of liquid measure.

(Added 2017)

**3.14.1.3. Identification on Service Provider Documentation.** – Transmission fluid installed from a bulk tank at time of transmission service shall be identified on the customer invoice with the information listed below:

(a) the brand name;

(b) the name and place of business of the service provider;

(c) the words "Transmission Fluid" which may be incorporated into a more specific description of transmission type such as "Automatic Transmission Fluid" or "Continuously Variable Transmission Fluid";

(d) the primary performance claim or claims met by the fluid or reference to where these claims may be viewed (e.g., website reference). Performance claims include but are not limited to those set by original equipment manufacturers and standards-setting organizations such as SAE and JASO and are acknowledged by reference; and

(e) an accurate statement of the quantity of the contents in terms of liquid measure.

(Added 2017)

**3.14.1.4. Bulk Delivery.** – When the transmission fluid is sold in bulk, an invoice, bill of lading, shipping paper, or other documentation must accompany each delivery. This document must identify the fluid as defined in Section 3.14.2. Container Labeling.

(Added 2017)

**3.14.1.5. Storage Tank Labeling.** – Each storage tank of transmission fluid shall be labeled with the following:

(a) the brand name;

(b) the primary performance claim or claims met by the fluid or reference to where these claims may be viewed (e.g., website reference). Performance claims include but are not limited to those set by original equipment manufacturers and standards-setting organizations such as SAE and JASO and are acknowledged by reference.

(Added 2017)

**3.14.1.6. Documentation of Claims Made Upon Product Label.** – Any manufacturer, packer, or distributor of any product subject to this article and sold in this state shall provide, upon request of duly authorized representatives of the Director, credible documentation of any claim made upon their product label, including claims made on any website referenced by said label. If the product performance claims published by a blender and/or marketer are based on the claim(s) of one or more additive suppliers, documentation of the claims may be requested in confidence by a duly authorized representative of the Director. Supporting data may be supplied directly to the Director's office by the additive supplier(s).

(Added 2004) (Amended 2017)

**3.15. Diesel Exhaust Fluid (DEF).**

**3.15.1. Labeling of Diesel Exhaust Fluid (DEF).** – DEF shall be labeled.

**3.15.1.1. Retail Dispenser Labeling.** – A label shall be clearly and conspicuously placed on the front panel of the DEF dispenser stating "for operation of selective catalytic reduction (SCR) converters in motor vehicles with diesel engines."

**3.15.1.2. Documentation for Retailers of Bulk Product.** – A DEF supplier shall provide, at the time of delivery of the bulk shipment of DEF, identification of the fluid's origin including the name of the fluid manufacturer, the brand name, trade name, or trademark, and a statement identifying the fluid as DEF conforming to specifications given in the latest version of ISO 22241, "Diesel engines – NOx reduction agent 2." This information shall be provided by the supplier on an invoice, bill of lading, shipping paper, or other document.

**3.15.1.3. Labeling Packaged Product.** – Any DEF retail package shall bear a label that includes the name of the fluid manufacturer, the brand name, trade name, or trademark, a statement identifying the fluid as DEF conforming to specifications given in the latest version of ISO 22241, "Diesel engines – NOx reduction agent AUX 32." And the statement, "It is recommended to store DEF between − 5 °C to 30 °C (23 °F to 86 °F)."

**3.15.1.4. Documentation for Bulk Deliveries.** – A carrier that transports or accepts for transportation any bulk shipment by tank truck, freight container, cargo tank, railcar, or any other vehicle used to transport or deliver bulk quantities of DEF shall, at the time of delivery of the DEF, provide identification of the fluid's origin including the name of the fluid manufacturer, the brand name, trade name, or trademark, and a statement identifying the fluid as DEF conforming to specifications given in the latest version of ISO 22241, "Diesel engines – NOx reduction agent AUS 32." This information shall be provided to the recipient on an invoice, bill of lading, shipping paper, or other document.

(Added 2014)

**3.16. Tractor Hydraulic Fluid.**

**3.16.1. Labeling and Identification of Tractor Hydraulic Fluid.** – Tractor hydraulic fluid shall be labeled or identified as described below

**3.16.1.1. Container Labeling.** – The label on a container of tractor hydraulic fluid shall not contain any information that is false or misleading. Containers include bottles, cans, multi-quart or liter containers, pails, kegs, drums, and intermediate bulk containers (IBCs). In addition, each container of tractor hydraulic fluid shall be labeled with the following:

(a) the brand name;

(b) the name and place of business of the manufacturer, packer, seller, or distributor;

(c) the words "Tractor Hydraulic Fluid," which may include words such as "Hydraulic Fluid for Agricultural Applications" or "Universal Tractor Transmission Oil";

(d) the primary performance claim or claims met by the fluid and reference to where any supplemental claims may be viewed (e.g., website reference). Performance claims are those set by original equipment manufacturers;

(e) any obsolete equipment manufacturer specifications shall be clearly identified as "obsolete" and accompanied by the following cautionary statement on the principal display panel in accordance with the Uniform Packaging and Labeling Regulation, Section 8, Prominence and Placement: Consumer Packages and Section 9. Prominence and Placement: Non-Consumer Packages.

**Caution:** Some specifications are no longer deemed active by the original equipment manufacturer. Significant harm to the transmission, hydraulic system, seals, final drive or axles is possible when using in applications in which it was not intended.

The above cautionary statement is not required if the fluid claims to meet current original equipment manufacturer's specifications and refers to thereby preceding specifications; and

(f) an accurate statement of the quantity of the contents in terms of liquid measure.
(Amended 2021)

**3.16.1.2. Identification on Documentation.** – Tractor hydraulic fluid sold in bulk shall be identified on the manufacturer, packer, seller or distributor invoice, bill of lading, shipping paper, or other documentation with the information listed below:

(a) the brand name;

(b) the name and place of business of the manufacturer, packer, seller, or distributor;

(c) the words "Tractor Hydraulic Fluid," which may include words such as "Hydraulic Fluid for Agricultural Applications" or "Universal Tractor Transmission Oil";

(d) the primary performance claim or claims met by the fluid and reference to where any supplemental claims may be viewed (e.g., website reference). Performance claims include but are not limited to those set by original equipment manufacturers;

(e) any obsolete equipment manufacturer standard shall be clearly identified as "obsolete" and accompanied by the following cautionary statement on the principal display panel in accordance with the Uniform Packaging and Labeling Regulation, Section 8. Prominence and Placement: Consumer Packages and Section 9. Prominence and Placement: Non-Consumer Packages.

**Caution:** Some of the specifications are no longer deemed active by the original equipment manufacturer. Significant harm to the transmission, hydraulic system, seals, final drive or axles is possible when using in applications in which it is not intended.

The above cautionary statement is not required if the fluid claims to meet current original equipment manufacturer's specifications and refers to thereby preceding specifications; and

(f) an accurate statement of the quantity of the contents in terms of liquid measure.
(Amended 2021)

**3.16.1.3. Identification on Service Provider Documentation.** – Tractor hydraulic fluid installed from a bulk tank at time of service shall be identified on the customer invoice with the information listed below:

(a) the brand name;

(b) the name and place of business of the service provider;

(c) the words "Tractor Hydraulic Fluid," which may include words such as "Hydraulic Fluid for Agricultural Applications" or "Universal Tractor Transmission Oil";

(d) the primary claim or claims met by the fluid and reference to where any supplemental claims may be viewed (e.g., website reference). Performance claims are those set by original equipment manufacturers;

(e) any obsolete equipment manufacturer specifications shall be clearly identified as "obsolete" and accompanied by the following cautionary statement on the customer invoice in a clear and conspicuous manner.

**Caution:** Some of the specifications are no longer deemed active by the original equipment manufacturer. Significant harm to the transmission, hydraulic system, seals, final drive or axles is possible when using in applications in which it is not intended.

The above cautionary statement is not required if the fluid claims to meet current original equipment manufacturer's specifications and refers to thereby preceding specifications; and

(f) an accurate statement of the quantity of the contents in terms of liquid measure.

(Amended 2021)

**3.16.1.4. Bulk Delivery.** – When the tractor hydraulic fluid is sold in bulk, an invoice, bill of lading, shipping paper, or other documentation must accompany each delivery. This document must identify the fluid as defined in Section 3.17.1.1. Container Labeling.

**3.16.1.5. Storage Tank Labeling.** – Each storage tank of tractor hydraulic fluid shall be labeled with the following:

(a) the brand name; and

(b) the primary performance claim or claims met by the fluid and reference to where any supplemental claims may be viewed (e.g., website reference). Performance claims are those set by original equipment manufacturers;

(Amended 2021)

**3.16.1.6. Documentation of Claims Made Upon Product Label.** – Any manufacturer, packer, or distributor of any product subject to this article and sold shall provide, upon request of duly authorized representatives of the Director, credible documentation of any claim made upon their product label, including claims made on any website referenced by said label. If the product performance claims published by blender and/or marketer are based on the claim(s) of one or more additive suppliers, documentation of the claims shall be provided upon request to a duly authorized representative of the Director. Supporting data shall, upon request, be supplied directly to the Director's office by the additive supplier(s).

(Added 2019)

## Section 4. Retail Storage Tanks and Dispenser Filters

**4.1. Water in Gasoline-Alcohol Blends, Biodiesel Blends, Ethanol Flex Fuel, Aviation Gasoline, and Aviation Turbine Fuel.** – No water phase greater than 6 mm (1/4 in) as determined by an appropriate detection paste or other acceptable means, is allowed to accumulate in any tank utilized in the storage of gasoline-alcohol blend, biodiesel, biodiesel blends, ethanol flex fuel, aviation gasoline, and aviation turbine fuel.

(Amended 2008, 2012, and 2014)

**4.2. Water in Gasoline, Diesel, Gasoline-Ether, and Other Fuels.** – Water shall not exceed 25 mm (1 in) in depth when measured with water indicating paste or other acceptable means in any tank utilized in the storage of diesel, gasoline, gasoline-ether blends, and kerosene sold at retail except as required in Section 4.1. Water in Gasoline-Alcohol Blends, Biodiesel Blends, Ethanol Flex Fuel, Aviation Gasoline, and Aviation Turbine Fuel.
(Amended 2008, 2012, and 2014)

**4.3. Dispenser Filters.**

**4.3.1. Engine Fuel Dispensers.**

(a) All gasoline, gasoline-alcohol blends, gasoline-ether blends, ethanol flex fuel, and M85 methanol dispensers shall have a 10 micron or smaller nominal pore-sized filter.

(b) All biodiesel, biodiesel blends, diesel, and kerosene dispensers shall have a 30 micron or smaller nominal pore-sized filter.

(Amended 2014)

**4.3.2. Delivery of Aviation Fuel and Gasoline.**

(a) Fuel delivery of aviation turbine fuel into aircraft shall be filtered through a fuel filter/separator conforming to EI 1581, "Specification and Laboratory Qualification Procedures for Aviation Jet Fuel Filter/Water Separators."

(b) Fuel delivery of aviation gasoline into aircraft shall be filtered through a fuel filter/separator conforming to EI 1581, "Specification and Laboratory Qualification Procedures for Aviation Jet Fuel Filter/Water Separators."

(Amended 2018)

**4.3.3. Delivery of Hydrogen Gas.**

(a) All gaseous hydrogen dispensers shall have a 5 micron or smaller nominal pore-sized filter; and

(b) shall be fitted with a coalescing filter that is size appropriate to the dispensing system, to protect the vehicle from liquid contamination.

(Added 2008) (Amended 2014, 2018, and 2023)

**4.4. Product Storage Identification.**

**4.4.1. Fill Connection Labeling.** – The fill connection for any fuel product storage tank or vessel supplying engine-fuel devices shall be permanently, plainly, and visibly marked as to the product contained.
(Amended 2008)

**4.4.2. Declaration of Meaning of Color Code.** – When the fill connection device is marked by means of a color code, the color code shall be conspicuously displayed at the place of business and the API color codes as specified and published in "API Recommended Practice 1637, Using the API Color-Symbol System to Identify Equipment, Vehicles, and Transfer Points for Petroleum Fuels and Related Products at Dispensing and Storage Facilities and Distribution Terminals" shall be used.
(Amended 2018)

**4.5. Volume of Product Information.** – Each retail location shall maintain on file a calibration chart or other means of determining the volume of each regulated product in each storage tank and the total capacity of such storage tank(s). This information shall be supplied immediately to the Director.

## Section 5. Condemned Product

**5.1. Stop-Sale Order at Retail.** – A stop-sale order may be issued to retail establishment dealers for fuels failing to meet specifications or when a condition exists that causes product degradation. A release from a stop-sale order will be awarded only after final disposition has been agreed upon by the Director. Confirmation of disposition shall be submitted in writing on form(s) provided by the Director and contain an explanation for the fuel's failure to meet specifications. Upon discovery of fuels failing to meet specifications, meter readings and physical inventory shall be taken and reported in confirmation for disposition. Specific variations or exemptions may be made for fuels designed for special equipment or services and for which it can be demonstrated that the distribution will be restricted to those uses.

**5.2. Stop-Sale Order at Terminal or Bulk Plant Facility.** – A stop-sale order may be issued when products maintained at terminals or bulk plant facilities fail to meet specifications or when a condition exists that may cause product degradation. The terminal or bulk storage plant shall immediately notify all customers that received those product(s) and make any arrangements necessary to replace or adjust to specifications those product(s). A release from a stop-sale order will be awarded only after final disposition has been agreed upon by the Director. Confirmation of disposition of products shall be made available in writing to the Director. Specific variations or exemptions may be made for fuels used for blending purposes or designed for special equipment or services and for which it can be demonstrated that the distribution will be restricted to those uses.



## Section 6. Product Registration

**6.1. Engine Fuels Designed for Special Use.** – All engine fuels designed for special use that do not meet ASTM specifications or standards addressed in Section 2. Standard Specifications shall be registered with the Director on forms prescribed by the Director 30 days prior to when the registrant wishes to engage in sales. The registration form shall include all of the following information:

**6.1.1. Identity.** – Business name and address(es).

**6.1.2. Address.** – Mailing address, if different than business address.

**6.1.3. Business Type.** – Type of ownership of the distributor or retail dealer, such as an individual, partnership, association, trust, corporation, or any other legal entity or combination thereof.

**6.1.4. Signature.** – An authorized signature, title, and date for each registration.

**6.1.5. Product Description.** – Product brand name and product description.

**6.1.6. Product Specification.** – A product specification sheet shall be attached.

**6.2. Renewal. –** Registration is subject to annual renewal.

**6.3. Re-registration.** – Re-registration is required 30 days prior to any changes in Section 6.1. Engine Fuels Designed for Special Use.

**6.4. Authority to Deny Registration.** – The Director may decline to register any product that actually or by implication would deceive or tend to deceive a purchaser as to the identity or the quality of the engine fuel.

**6.5. Transferability.** – The registration is not transferable.

## Section 7. Test Methods and Reproducibility Limits

**7.1. ASTM Standard Test Methods.** – ASTM Standard Test Methods referenced for use within the applicable Standard Specification shall be used to determine the specification values for enforcement purposes.

**7.1.1. Premium Diesel.** – The following test methods shall be used to determine compliance with the premium diesel parameters:

(a) **Cetane Number.** – The latest version of ASTM D613, "Standard Test Method for Cetane Number of Diesel Fuel Oil";

(b) **Low Temperature Operability.** – The latest version of ASTM D4539, "Standard Test Method for Filterability of Diesel Fuels by Low-Temperature Flow Test (LTFT)" or ASTM D2500, "Standard Test Method for Cloud Point of Petroleum Products" (according to marketing claim);

(c) **Thermal Stability.** – The latest version of ASTM D6468, "Standard Test Method for High Temperature Stability of Middle Distillate Fuels" (180 min, 150 °C); and

(d) **Lubricity.** – The latest version of ASTM D6079, "Standard Test Method for Evaluating Lubricity of Diesel Fuels by the High Frequency Reciprocating Rig (HFRR)."

(Amended 2003)

**7.2. Reproducibility Limits.**

**7.2.1. AKI Limits.** – When determining the antiknock index (AKI) acceptance or rejection of a gasoline sample, the AKI reproducibility limits as outlined in the latest version of ASTM D4814, "Standard Specification for Automotive Spark-Ignition Engine Fuel," Appendix X1 shall be acknowledged for enforcement purposes.

**7.2.2. Reproducibility.** – The reproducibility limits of the standard test method used for each test performed shall be acknowledged for enforcement purposes, except as indicated in Section 2.2.1. Premium Diesel Fuel and Section 7.2.1. AKI Limits. No allowance shall be made for the precision of the test methods for aviation gasoline or aviation turbine fuels.

(Amended 2008)

**7.2.3. SAE Viscosity Grades for Engine Oils.** – With the exception of the low-temperature cranking viscosity, all values required to define SAE Viscosity Grades, as defined in the latest version of SAE J300, "Engine Oil Viscosity Classification", are critical specifications as defined by the latest version of ASTM D3244, "Standard Practice for Utilization of Test Data to Determine Conformance with Specifications".

(Added 2008) (Amended 2021)

**7.2.4. Dispute Resolution.** – In the event of a dispute over a reported test value, the guidelines presented in the latest version of ASTM D3244, "Standard Practice for Utilization of Test Data to Determine Conformance with Specifications," shall be used to determine the acceptance or rejection of the sample.

**7.2.5. Additional Enforcement Action.** – The Director may initiate enforcement action in the event that, based upon a statistically significant number of samples, the average test result for products sampled from the same source location is greater than the legal maximum or less than the legal minimum limits (specification value), posted values, certified values, or registered values.

(Added 2008) (Amended 2018)

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