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## Motor Fuel Quality Testing Standards

### Sec. 14-327d-1. Definitions

As used in section 14-327d-1 to section 14-327d-11, inclusive, of the Regulations of Connecticut State Agencies:

(1) “ASTM” means the American Society for Testing and Materials International. ASTM is an 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;

(2) “Antiknock Index (AKI)” means 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;

(3) “Approved denaturant(s)” means materials used for denaturing ethyl alcohol for use as a motor fuel which have been approved by the U.S. Department of the Treasury, Bureau of Alcohol, Tobacco and Firearms and the Director;

(4) “Approved lead substitute” means an EPA registered gasoline additive formulated to reduce valve seat recession in engines designed to operate on leaded gasoline and which has been approved by the director. Such approval shall be based upon the submission of scientific documentation acceptable to the director;

(5) “Automatic transmission fluid” means a product intended for use in a passenger vehicle, other than a bus, as either a lubricant, coolant, or liquid medium in any type of fluid automatic transmission that contains a torque converter. For the purposes of this section, fluids intended for use in continuously variable transmissions are not considered “Automatic Transmission Fluid;”

(6) “Automotive fuel rating” means the automotive fuel rating required under the amended Octane Certification and Posting Rule (or as amended, the Fuel Rating Rule), 16 CFR Part 306. Under said rule, sellers of liquid automotive fuels, including alternative fuels, shall determine, certify, and post an appropriate automotive fuel rating. The automotive fuel rating for gasoline is the antiknock index (octane rating). The automotive fuel rating for alternative liquid fuels consists of the common name of the fuel, along with a disclosure of the amount, expressed as a minimum percentage by volume of the principal component of the fuel. For alternative liquid automotive fuels, a disclosure of other components, expressed as a minimum percentage by volume, may be included;

(7) “Automotive gasoline, Automotive gasoline-oxygenate blend” means a type of fuel suitable for use in spark-ignition automobile engines and also commonly used in marine and non-automotive applications;

(8) “Aviation gasoline” means a type of gasoline suitable for use as a fuel in an aviation spark-ignition internal combustion engine;

(9) “Aviation turbine fuel” means a refined middle distillate suitable for use as a fuel in an aviation gas turbine internal combustion engine;

(10) “Base gasoline” means all components other than ethanol in a blend of gasoline and ethanol;

(11) “Biodiesel” means a fuel comprised of mono-alkyl esters of long chain fatty acids derived from vegetable oils or animal fats, designated B100;

(12) “Biodiesel blend” means a fuel comprised of a blend of biodiesel with petroleum-based diesel fuel and designated as BXX. In the abbreviation BXX, the XX represents the volume percentage of biodiesel fuel in the blend;

(13) “Cetane index” means an approximation of the cetane number of distillate diesel fuel, which does not contain a cetane improver additive, calculated from the density and distillation measurements;

(14) “Cetane number” means a numerical measure of the ignition performance of a diesel fuel obtained by comparing it to reference fuels in a standardized engine test;

(15) “Commissioner” means the Commissioner of Consumer Protection;

(16) “Denatured fuel ethanol” means nominally anhydrous ethyl alcohol meeting the provisions of ASTM D-4806, “Standard Specification for Denatured Fuel Ethanol to be Blended with Gasolines for Use as an Automotive Spark-Ignition Engine fuel.” It is intended to be blended with gasoline for use as a fuel in a spark-ignition internal combustion engine. The denatured fuel ethanol is first made unfit for drinking by the addition of Bureau of Alcohol, Tobacco, and Firearms (BATF) approved substances before blending with gasoline;

(17) “Diesel fuel” means a refined middle distillate suitable for use as a fuel in a compression-ignition (diesel) internal combustion engine;

(18) “Director” means the Director of the Food and Standards Division of the Department of Consumer Protection;

(19) “Distillate” means any product obtained by condensing the vapors given off by boiling petroleum or its products;

(20) “Distributor” means any person who imports or causes to be imported into this state motor fuel for sale or use in this state or any person who produces, refines, blends, manufactures or compounds motor fuels within this state for sale or use in this state and includes any affiliate of either such person who purchases motor fuel for sale, consignment, or distribution to another or receives motor fuel on consignment for consignment or distribution to his own motor fuel accounts or to accounts of his supplier, but does not include any person who is an employee of, or merely serves as a common carrier providing transportation service for, such supplier;

(21) “EPA” means the United States Environmental Protection Agency;

(22) “E85 Fuel ethanol” means a blend of ethanol and hydrocarbons of which the ethanol portion is nominally 85 to 75 volume percent denatured fuel ethanol;

(23) “Engine fuel” means any liquid or gaseous matter used for the generation of power in an internal combustion engine;

(24) “Engine fuels designed for special use” means 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;

(25) “Fuel oil” means a refined oil middle distillates, heavy distillates, or residues of refining, or blends of these, suitable for use as a fuel for heating or power generation, the classification of which shall be defined by ASTM D-396;

(26) “Gasoline” means a volatile mixture of liquid hydrocarbons generally containing small amounts of additives suitable for use as a fuel in a spark-ignition internal combustion engine;

(27) “Gasoline-oxygenate blend” means a blend consisting primarily of gasoline and a substantial amount (more than 0.35 mass percent of oxygen, or more than 0.15 mass percent of oxygen if methanol is the only oxygenate) of one or more oxygenates. This definition includes, but is not limited to, the following designations:

(A) “Gasohol” meaning any motor fuel containing a nominal ten volume percent anhydrous denatured ethanol and 90 volume percent unleaded gasoline, regardless of other name, label, or designation;

(B) Any gasoline-oxygenate blend which meets the EPA's "Substantially Similar" rule;

(C) Any gasoline-oxygenate blend for which there is an existing Clean Air Act waiver issued by the EPA; and

(D) Any gasoline-oxygenate blend which is not subject to EPA fuel requirements, but for which approval has been granted by the Department of Consumer Protection.

(28) "Gear oil" means oil used to lubricate gears, axles, or some manual transmissions;

(29) "Kerosene or Kerosine" means a refined middle distillate suitable for use as a fuel for heating or illuminating, the classification of which shall be defined by ASTM D-3699;

(30) "Lead substitute" means 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;

(31) "Lead substitute engine fuel" means, for labeling purposes, a gasoline or gasoline-oxygenate blend that contains a lead substitute;

(32) "Leaded" means any gasoline or gasoline-oxygenate blend which contains not less than 0.013 gram lead per liter (0.05 gram lead per U.S. gallon) or contains an approved lead substitute which provides a lead equivalent of at least 0.026 gram per liter (0.10 gram lead per U.S. gallon);

(33) "Low sulfur" means low sulfur diesel fuel that meets ASTM D-975 (e.g., Grade Low Sulfur No. 1-D or Grade Low Sulfur No. 2-D) standards. Diesel or fuel oil containing higher amounts of sulfur for off-road use is defined by section 16a-21a of the Connecticut General Statutes;

(34) "Low temperature operability" means 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;

(35) "Lubricity" means a qualitative term describing the ability of a fluid to affect friction between, and wear to, surfaces in relative motion under load;

(36) "M100 Fuel methanol" means nominally anhydrous methyl alcohol, generally containing small amounts of additives, suitable for use as a fuel in a compression-ignition internal combustion engine;

(37) "M85 Fuel methanol" means a blend of methanol and hydrocarbons of which the methanol portion is nominally 70 to 85 volume percent;

(38) "Motor fuel" means (1) all products commonly or commercially known or sold as gasoline, including casing head and absorption or natural gasoline, regardless of their classification or uses, and (2) any liquid prepared, advertised, offered for sale or sold for use, or commonly and commercially used, as a fuel in internal combustion engines, including any liquid commonly referred to as "gasohol" which is prepared, advertised, offered for sale or sold for use, or commonly and commercially used, as fuel in internal combustion engines, but excluding aviation fuel and liquefied petroleum gases;

(39) "Motor octane number" means the number describing the relative anti-knock characteristic of a motor fuel determined by ASTM Motor Method D-2700;

(40) "Octane index" means the number obtained by adding the research octane number and the motor octane number and dividing the sum by two;

(41) “Motor oil” means 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 a 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;

(42) “Oil” means motor oil, engine oil, and/or gear oil;

(43) “Oxygen content of gasoline” means the percentage of oxygen by mass contained in a gasoline;

(44) “Oxygenate” means an oxygen containing ashless organic compound, such as an alcohol or an ether, which may be used as a fuel or a fuel supplement;

(45) “Oxygenated fuel” means a liquid which is a homogeneous blend of hydrocarbons and oxygenates;

(46) “Premium diesel fuel” means all diesel fuels identified on retail dispensers, bills of lading, invoices, shipping papers, or other documentation with terms such as premium, super, supreme, plus, or premier;

(47) “Qualitative word or term” means any word or term used in a brand name which by definition or customary usage indicates a level of quality, classification, grade, or designation;

(48) “Reformulated gasoline” means a volatile mixture of liquid hydrocarbons and oxygenates meeting the reformulated gasoline requirements of the Clean Air Act Amendments of 1990 and suitable for use as a fuel in a spark-ignition internal combustion engine;

(49) “Research octane number” means the number describing the relative anti-knock characteristic of a motor fuel determined by ASTM Research Method D-2699;

(50) “Retailer” means any person engaged in the business of selling motor fuel to the general public for ultimate consumption;

(51) “SAE” means the Society of Automotive Engineers, a technical organization for engineers, scientists, technicians, and others in positions that cooperate closely in the engineering, design, manufacture, use, and maintainability of self-propelled vehicles;

(52) “Substantially similar” rule means the U.S. Environmental Protection Agency’s “Substantially Similar” rule, Section 211 (f) (1) of the Clean Air Act (42 U.S.C. § 7545 (f) (1));

(53) “Thermal stability” means 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. Thermal stress can lead to the formation of insoluble gums or organic particulates. Insolubles (e.g., gums or organic particulates) can clog fuel filters and contribute to fuel injector deposits;

(54) “Total alcohol” means the aggregate total in volume percent of all alcohol contained in any fuel defined in this section;

(55) “Total oxygenate” means the aggregate total in volume percent of all oxygenates contained in any fuel defined in this section;

(56) “Unleaded” 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 gram lead per liter (0.05 gram lead per U.S. gallon) and not

more than 0.0013 gram phosphorus per liter (0.005 gram phosphorus per U.S. gallon); and

(57) “Wholesale purchaser consumer” means any person who is an ultimate gasoline consumer of fuel methanol, fuel ethanol, diesel fuel, biodiesel, 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.

(Effective April 29, 1992; amended December 4, 2008)

### **Sec. 14-327d-2. Standard specifications of motor fuel**

(a) The commissioner adopts by reference ASTM D-4814 “Standard Specifications for Automotive Spark-Ignition Engine Fuel” for gasoline, with the following modifications:

(1) The minimum lead content for gasoline registered and/or labeled as “leaded” shall be as defined in section 14-327d-1(32) of the Regulations of Connecticut State Agencies;

(2) Reid vapor pressure and vapor/liquid ratio seasonal specifications shall be as listed in the Connecticut Department of Environmental Protection Regulations, section 22a-174-20(a)(5) of the Regulations of Connecticut State Agencies;

(3) Octane rating or Antiknock Index shall not be less than the Octane Index certified on the Form of Registration for Spark Ignition Motor Fuel required by section 14-327b of the Connecticut General Statutes; and

(4) The minimum Octane or Antiknock Index (R + M) /2 of gasoline offered for sale shall not be less than the following:

(A) Economy Unleaded 86;

(B) Regular Unleaded 87;

(C) Regular Leaded 89;

(D) Mid Grade, Plus Unleaded 89;

(E) Premium, Super, Supreme, High-Test Unleaded 91;

(F) Premium Leaded 93; and

(G) Racing Leaded or Racing Unleaded 100.

(5) 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;

(6) Minimum Motor Octane Number shall not be less than 82 for gasoline with an AKI of 87 or greater;

(7) Lead Substitute 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 0.026g of lead per liter (0.10 g per U.S. gal).

(b) The commissioner hereby adopts by reference ASTM D-4814, “Standard Specification for Automotive Spark-Ignition Engine Fuel” as standard specification for gasoline-oxygenate blends, with the following modifications:

(1) Gasoline blended with ethanol shall be blended under any of the following two options:

(A) The base gasoline used in such blends shall meet the requirements of ASTM D-4814, or

(B) The blend shall meet the requirements of ASTM D-4814;

(2) A vapor pressure test tolerance not exceeding one (1.0) pound per square inch may be allowed for gasoline-oxygenate blends;

(3) Reid vapor pressure and vapor/liquid ratio seasonal specifications as listed in the Connecticut Department of Environmental Protection Regulation, section 22a-174-20(a)(5) of the Regulations of Connecticut State Agencies;

(4) Distillation range — the minimum temperature at fifty percent (50%) evaporated shall be 65.6 degrees C (150 degrees F) as determined by ASTM Test Method D-86;

(5) The minimum lead content for gasoline-oxygenate blends registered and/or labeled as “leaded” shall be as defined in section 14-327d-1(32) of the Regulations of Connecticut State Agencies;

(6) Octane rating or Antiknock Index shall not be less than the octane index certified on the Form of Registration for Spark Ignition Motor Fuel required by section 14-327b of the Connecticut General Statutes;

(7) The minimum Octane or Antiknock Index, (R + M) /2 of gasoline-oxygenate blends offered for sale shall not be less than the following:

- (A) Economy Unleaded 86;
- (B) Regular Unleaded 87;
- (C) Regular Leaded 89;
- (D) Mid Grade, Plus Unleaded 89;
- (E) Premium, Super, Supreme, High-Test Unleaded 91;
- (F) Premium Leaded 93; and
- (G) Racing Leaded or Racing Unleaded 100.

(8) 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;

(9) Minimum Motor Octane Number shall not be less than 82 for gasoline with an AKI of 87 or greater;

(10) Lead Substitute 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 0.026g of lead per liter (0.10 g per U.S. gal);

(11) Gasohol and leaded gasohol shall contain ten (10) plus/minus 0.5 volume percent denatured fuel ethanol;

(12) Gasoline-oxygenate blends not otherwise defined in section 14-327d-1 of the Regulations of Connecticut State Agencies, may contain, maximum or minimum as appropriate, the percentage and type of oxygenates as certified on the registration as required by Form of Registration for Spark-Ignition Motor Fuel required by section 14-327b of the Connecticut General Statutes subject to compliance with other specifications as provided in this section.

(c) The commissioner hereby adopts by reference, ASTM D-975, “Standard Specification for Diesel Fuel Oils” as standard specification for diesel motor fuels.

(d) 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.

(e) The commissioner hereby adopts by reference, ASTM D-6751, “Standard Specification for Biodiesel Fuel (B100) Blend Stock for Distillate Fuels”.

(f) Biodiesel Blends, meaning blends of biodiesel and diesel fuels, shall meet the following requirements:

(1) The diesel fuel blend stock shall meet the most current requirements of ASTM D-975, Standard Specification for Diesel Fuel Oils;

(2) The biodiesel blend stock shall meet the most current requirements of ASTM D-6751, Standard Specification for Biodiesel Fuel (B100) Blend Stock for Distillate Fuels.

(3) Except that biodiesel may be blended with diesel fuel whose sulfur or aromatic levels are outside specification ASTM D-975, Standard Specification for Diesel Fuel Oils, grades 1-D, low sulfur 1-D, 2-D, or low sulfur 2-D provided the finished mixture meets ASTM D-975 requirements for these properties.

(g) Premium diesel fuel shall conform to the following requirements:

(1) Cetane number - A minimum cetane number of 47.0 as determined by ASTM Standard Test Method D-613;

(2) Low temperature operability - A cold flow performance measurement which meets the ASTM D-975 tenth percentile minimum ambient air temperature charts and maps by either ASTM Standard Test Method D-2500 (Cloud Point) or ASTM Standard Test Method D-4539 (Low Temperature Flow Test, LTFT). Low temperature operability requirements are only applicable from October 1 through March 31 of each year;

(3) Thermal stability - A minimum reflectance measurement of eighty percent (80%) as determined by ASTM Standard Test Method D-6468 (180 minutes, 150° C); and

(4) Lubricity - A maximum wear scar diameter of 520 microns as determined by ASTM D-6079. If an enforcement jurisdiction's single test indicates a wear scar diameter of more than 560 microns, a second test shall be conducted. If the average result of the two tests is more than 560 microns, the sample does not conform to the requirements of this part;

(h) Fuel oils shall meet the most recent version of ASTM D-396, "Standard Specification for Fuel Oils."

(i) Ethanol intended for blending with gasoline shall meet the most recent version of ASTM D-4806, "Standard Specification for Denatured Fuel Ethanol for Blending with Gasolines for Use as Automotive Spark-Ignition Engine Fuel."

(j) E85 Fuel Ethanol shall meet the most recent version of ASTM D-5798, "Standard Specification for Fuel Ethanol (Ed75-Ed85) for Automotive Spark-Ignition Engines."

(k) M85 Fuel Methanol shall meet the most recent version of ASTM D-5797, "Standard Specification for Fuel Methanol (M70-M85) for Automotive Spark Ignition Engines."

(l) In addition to meeting all specification requirements as set forth in section 14-327d-1 to section 14-327d-11, inclusive, of the Regulations of Connecticut State Agencies, each fuel must be suitable for the intended use.

(m) ASTM documents adopted by reference herein are available for inspection in the Office of the Director of the Food and Standards Division and may be obtained by contacting the director.

(n) The commissioner, upon making a determination that the implementation of an ASTM fuel standard has the potential to result in a fuel shortage, may delay implementation of the ASTM standard for up to one year subsequent to the formal promulgation date by ASTM.

(Effective April 29, 1992; amended November 4, 2004, December 4, 2008)

### **Sec. 14-327d-3. Quality of motor fuels**

(a) A motor fuel shall be of the quality specifications as registered with the commissioner.

(b) If any quality specification is displayed on a dispenser or in any public location where motor fuel is sold and said specification exceeds the quality specifications registered, the displayed specification shall become the legal minimum for all motor fuels so labeled or advertised.

(c) Any octane number or antiknock rating displayed shall be the octane index and no other number or rating.

(d) All other specifications displayed must be identified by name or designation except that the octane index may be used as part of a brand name after compliance with section 14-327b of the Connecticut General Statutes.

(Effective April 29, 1992; amended December 4, 2008)

#### **Sec. 14-327d-4. Sale of gasoline**

(a) All gasoline sold at wholesale or retail in Connecticut shall be sold under the label, name, or brand name under which the gasoline was first purchased for resale in Connecticut, except as provided in subsection (b) of this section.

(b) The owner of any gasoline purchased for sale or resale in Connecticut may sell such gasoline under a label, name, or brand other than that under which the gasoline was purchased provided that the new label, name, or brand is filed with the Commissioner.

(Effective April 29, 1992)

#### **Sec. 14-327d-5. Evidence of original purchase**

The invoice, bill of sale, bill of lading, terminal ticket, or other evidence of the purchase of motor fuel, including but not limited to computer produced documents, shall state the name and address of the seller and buyer, the date and time of sale, the grade of the product, the label, name or brand under which it was sold, and the number of gallons sold. All such evidence of purchase shall be signed in ink or other indelible substance by the seller. Documentation shall be maintained for a period not less than one (1) year.

(Effective April 29, 1992; amended December 4, 2008)

#### **Sec. 14-327d-6. Labeling of dispensing devices**

(a) For the purpose of product identity, each dispensing device used in the retailing of any motor fuel shall be plainly and conspicuously labeled with the following:

(1) gasoline, the registered brand name;

(2) diesel fuel, the registered brand name plus a descriptive or generic label if the registered brand name does not adequately identify the type and/or grade of product;

(3) gasoline-oxygenate blends containing at least one percent by volume of ethanol, methanol, or combination, the registered brand name plus an additional label which states that the blend “contains ethanol,” “contains methanol,” or “contains methanol/cosolvent.”

(4) kerosene (kerosine) shall be identified by the grades No. 1-K or No. 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 mm (1/16 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.

(5) fuel ethanol shall be identified by the capital letter E followed by the numerical value representing the volume percentage of denatured ethanol (Example: E85). Each retail dispenser of fuel ethanol shall be labeled with the capital letter E followed

by the numerical value representing the volume percentage of denatured ethanol and ending with the word “Ethanol” (Example: E85 Ethanol). Fuel Ethanol shall be labeled with its automotive fuel rating in accordance with 16 CFR Part 306.

(6) fuel methanol shall be identified by the capital letter M followed by the numerical value representing the volume percentage of methanol (Example: M85). Each retail dispenser of fuel methanol shall be labeled by the capital letter M followed by the numerical value representing the volume percentage of methanol and ending with the word “methanol” (Example: M85 Methanol). Fuel methanol shall be labeled with its automotive fuel rating in accordance with 16 CFR Part 306.

(7) biodiesel and biodiesel blends shall be identified by the capital letter B followed by the numerical value representing the volume percentage of biodiesel fuel (Examples: B10; B20; B100). Biodiesel blends containing five percent (5%) or less biodiesel by volume are exempted from these labeling requirements. Each retail dispenser of biodiesel blend containing more than five percent (5%) biodiesel shall be labeled with either:

(A) The capital letter B followed by the numerical value representing the volume percentage of biodiesel fuel and ending with “biodiesel blend” (Examples: B10 biodiesel blend; B20 biodiesel blend; B75 biodiesel blend) or;

(B) The phrase “biodiesel blend between 5% and 20%” or similar words for biodiesel blends between five percent (5%) and twenty percent (20%) biodiesel.

(b) Labels shall be consistent with section 16a-15-8(c) of the Regulations of Connecticut State Agencies:

(1) If a fuel is not covered by an EPA waiver, the additional label shall identify the percent by volume of ethanol and/or methanol in the blend.

(2) If a dispenser is so designed that two or more hose/nozzles which are connected to a common housing dispense more than one type or grade of product, means shall be provided to clearly indicate the identity of the product being dispensed from each hose/nozzle. Diesel nozzles in a common housing with other motor fuels shall be plainly and prominently marked or manufactured to prevent dispensing diesel fuel in gasoline fuel tank filler openings.

(c) **Water in Gasoline-Alcohol Blends.** No water phase greater than 6 mm (1/4 in) as determined by an appropriate detection paste or other method approved by the director, is allowed to accumulate in any tank utilized in the storage of gasoline-alcohol blend.

(d) **Water in Gasoline, Diesel, Gasoline-Ether, and Other Fuels.** No water phase greater than 50 mm (2 in) as determined by an appropriate detection paste or other method approved by the director, is allowed to accumulate in any tank utilized in the storage of biodiesel, diesel, gasoline, gasoline-ether blends, and kerosene sold at retail.

(e) Product Storage Identification shall be accomplished in the following manner:

(1) Fill Connection Labeling. The fill connection for any petroleum product storage tank or vessel supplying engine-fuel devices shall be permanently, plainly, and visibly marked as to the product contained. Adjacent surrounding surfaces shall be unpainted or painted with a non-conflicting color.

(2) Declaration of Meaning of Color Code:

(i) White –Economy or Regular grade gasoline

(ii) Blue – Mid-grade gasoline

(iii) Red – Premium or Racing grade Gasoline

(iv) Green – Diesel

(v) Brown – Kerosene

(3) Other color code systems may be employed provided that they do not conflict with color-product designations in this section and that a visible color code system key is posted in a prominent place on the property.

(f) **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 to the commissioner or the commissioner's agent upon request.

(Effective April 29, 1992; amended December 4, 2008)

#### **Sec. 14-327d-7. Registration and branding**

(a) All motor fuels offered for sale, sold or delivered to a purchaser in the State of Connecticut shall be branded, and each and every brand name shall be registered, together with quality specifications, with the commissioner on forms provided by the director. The commissioner:

(1) May require written certification or other satisfactory evidence of compliance for any motor fuel which is subject to federal waiver requirements or other applicable laws or regulations; and

(2) May require any person desiring to register a motor fuel for which there exists no generally recognized classification, basic quality standards, or performance record, to submit, in writing, the following:

(A) Certified test data and performance evaluations; and

(B) Detailed chemical and physical characteristics.

(b) This information shall be from independent sources of recognized qualification or otherwise satisfactory to the commissioner, and shall be submitted before an application for registration will be considered.

(c) Any brand name registration under this section shall in no way supersede federal Trademark Law.

(Effective April 29, 1992; amended December 4, 2008)

#### **Sec. 14-327d-8. Octane range number of commercial gasoline**

No number within the octane range of commercial gasolines shall be used as a prefix, suffix, or any part of a brand name, unless the registered octane index is at least equivalent to said number.

(Effective April 29, 1992)

#### **Sec. 14-327d-9. Cetane range of commercial diesel fuels**

No number within the cetane range of commercial diesel fuels shall be used as a prefix, suffix, or any part of a brand name, unless the registered cetane number is at least equivalent to said number.

(Effective April 29, 1992)

#### **Sec. 14-327d-10. Registration provisions**

(a) Any person who registered a brand name for a motor fuel and fails to sell or deliver or discontinues selling or delivering the registered product shall notify the commissioner within 60 days after registration or last invoice or delivery ticket. Failure to notify shall automatically terminate and cancel the registration of the brand name and the quality specifications.

(b) The commissioner may establish and maintain a normal prevailing range of quality specifications of motor fuels for similar or customary classifications, grades, or designations of motor fuels intended for the same use or application. For automotive gasoline and gasoline-oxygenate blends, the minimum octane index shall be

87, but for fuels designated as “Economy,” the minimum octane index shall be 86. For those unleaded fuels designated as “Mid-Grade” or “Premium” or by a word or term of equivalent meaning, the minimum octane index shall be 89 and 91 respectively.

(Effective April 29, 1992; amended December 4, 2008)

## **Sec. 14-327d-11. Weights and measures sampling procedure for motor fuel octane and oxygenated levels**

### **(a) Containers and Seals**

Departmental inspectors shall use uncontaminated one-gallon steel containers, soldered on the outside to prevent contamination of the sample to obtain octane samples. Each container shall have an uncontaminated metal security seal. Departmental inspectors shall use uncontaminated one-pint aluminum containers, soldered on the outside to prevent contamination of the sample to obtain oxygenate samples. Each container shall have an uncontaminated plastic security seal. Each container shall have an official State of Connecticut sticker containing a sample number.

### **(b) Collection of Samples**

All samples shall be drawn from the dispenser nozzle. For octane testing the inspector shall draw 0.8 gallons. For oxygenate testing the inspector shall draw 0.09 gallons. When drawing samples from blend dispensers or any dispenser with multiple products available from a single shared nozzle the inspector shall flush 0.5 gallons through the dispenser before drawing the sample. After obtaining the samples the inspector shall fill out a report form provided by the department. The inspector shall have the person in charge of the station at the time of the inspection sign a copy of the report. The inspector shall give the person in charge of the station at the time of the inspection a copy of the signed report. After each sample is taken the inspector shall place the container in a locked plastic cooler that is kept in the inspector’s vehicle.

### **(c) Transportation and Storage of Samples**

At the end of the day the inspector shall deliver the samples to the testing laboratory and shall obtain a receipt from the laboratory showing the date brought to the laboratory, the condition of each sample and the sample number. In lieu of bringing the samples to the testing laboratory the inspector may bring the samples back to the department where the samples shall be logged in and stored in a suitable locked area for future pick-up by the laboratory.

### **(d) Custody of Stored Samples**

When picking up the samples from the department the laboratory shall give the departmental employee making the transfer a receipt showing the date picked up by the laboratory, the condition of each sample and the sample number. The laboratory shall provide to the department on a monthly basis a report showing the chain of custody for each sample from pick up to testing by the laboratory.

### **(e) Laboratory Reports**

If the sample fails to pass the minimum standards or levels a retest shall be made. The laboratory shall notify the department of the results of each test for each sample in writing. The department may require the laboratory to send by facsimile transmittal the results when a sample fails both tests. The sample shall fail the test if the octane level is 0.7 octane less than the posted figure for the product being tested.

(Effective December 6, 1995)