

ORDER OF ADOPTION

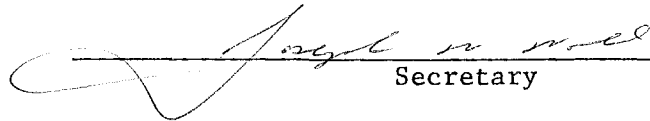
Pursuant to authority vested in the Department of Industry, Labor and Human Relations by section(s) 101.01-101.211 & 168.04, Stats., the Department of Industry, Labor and Human Relations hereby creates; amends; repeals and recreates; and repeals and adopts rules of Wisconsin Administrative Code chapter(s):

Ind. 10 Petroleum Products
(Number) (Title)

The attached rules shall take effect on Publication in the Wisconsin Register, pursuant to section 227.026, Stats.

Adopted at Madison, Wisconsin, this 12th
day of May, A.D., 19 80.

DEPARTMENT OF INDUSTRY, LABOR AND HUMAN RELATIONS


Secretary

WIS. ADM. CODE CHAPTER IND 10
PETROLEUM PRODUCTS

PART I--ADMINISTRATION AND ENFORCEMENT

Sections Ind 10.01, 10.02 and 10.03 are repealed and recreated to read:

Ind 10.01 POWER AND AUTHORITY. (1) Rule-making authority. The department has been granted the power and authority for the promulgation of rules relating to petroleum product grade specifications and the administration and enforcement of the rules.

- (2) Authority to enter. The department has been granted the authority to enter any premises of any manufacturer, vendor, dealer or user of products of petroleum during the regular business hours to determine whether the petroleum product has been inspected in accordance with the rules of the code.
- (3) Authority to sample and test. The department has been granted the authority to obtain samples of products of petroleum, at any point within or without this state, for the purpose of testing these products in accordance with the rules of this code.
- (4) Authority for access to records. The department has the authority to inspect the records of every person having custody of books or records showing the shipment or receipt of products of petroleum for the purpose of determining the amount of petroleum products shipped or received.
- (5) Authority to perform investigations. Any accident or explosion involving products of petroleum which come to the knowledge of the department shall be investigated by the department to determine whether or not there has been a violation of these rules.
- (6) Authority to provide assistance to local authorities. The department has been granted the authority, upon request of state agencies or local authorities, to assist in the investigation of hazardous situations involving suspected or known products of petroleum.

Ind 10.02 PETITION FOR MODIFICATION, PENALTIES AND FEES. (1) Penalties. Any person who violates any provision of this chapter may be fined not more than \$500 or be imprisoned for not more than 6 months, or both.

- (2) Fees. The department is authorized to collect fees for the inspection of any petroleum product. The fees for inspection shall be in accordance with Wis. Adm. Code chapter Ind 69, Fee Schedule, section Ind 69.11.
- (3) Reimbursement or credit. If a petroleum product is shipped outside of the state after inspection, the persons making the shipment shall be given credit or be reimbursed by the department for such fees, providing the following conditions are met:

- (a) Notice of such shipment out of state is properly acknowledged and sworn to before a notary public.
 - (b) The notice is given to the department not later than the 20th day of the following month.
- (4) No inspection fee. No inspection fee shall be charged on a petroleum product that is shipped by a person from storage at a refinery, marine terminal, pipeline terminal, pipeline tank farm or place of manufacture in this state to a person for storage at another refinery, marine terminal, pipeline terminal, pipeline tank farm or place of manufacture in this state.
- (5) Petition for modification. The department will consider and may grant modification to an administrative rule upon receipt of a fee and a completed petition for modification form from the owner, provided an equivalency is established in the petition for modification which meets the intent of the rule being petitioned. The department may impose specific conditions in a petition for modification to promote the protection of the health, safety or welfare of the employes or the public. Violation of those conditions under which the petition for modification is granted constitutes a violation of these rules.

Ind 10.03 DEFINITIONS. (1) Certified petroleum product user. A certified petroleum product user means a user who has inspection procedures certified by the department, has its own storage location and does not receive its petroleum products from a pipeline terminal, marine terminal, pipeline tank farm or bulk plant in this state or from such a facility located in Michigan, Minnesota, Iowa or Illinois that is inspected by the department, and who uses such petroleum products for its own consumption.

- (2) Department. The department, as used in this chapter, means the department of industry, labor and human relations.
- (3) Inspector. Inspector, as used in this chapter, means a duly authorized petroleum products inspector of the department.
- (4) Petroleum products. Petroleum products means gasoline, gasoline/alcohol-ether blends, aviation gasoline, automotive gasoline, kerosene, fuel oil, burner fuel oil and diesel fuel oil.
- (5) Petroleum product user. Petroleum product user means a user who has its own storage location and who does not receive its petroleum products from a pipeline terminal, marine terminal, pipeline tank farm or bulk plant in this state or from such a facility located in Michigan, Minnesota, Iowa or Illinois that is inspected by the department, and who uses such petroleum products for its own consumption.

PART II--PETROLEUM PRODUCT SPECIFICATIONS

Sections Ind 10.04, 10.05, 10.06, 10.07 and 10.08 are created to read:

Ind 10.04 GASOLINE SPECIFICATIONS. (1) Gasoline, automotive gasoline, and gasoline/alcohol-ether blends. Gasoline, automotive gasoline, and gasoline/alcohol-ether blends sold or offered for sale in this state shall be visually free of undissolved water, sediment and suspended matter and shall be clear and bright at the ambient temperature or 70° F (21° C), whichever is higher.

- (a) Gasoline. Any petroleum product designated by name or reference as gasoline shall meet the requirements of Table 10.04-A.

TABLE 10.04-A
MINIMUM REQUIREMENTS FOR GASOLINE

Test	Requirement	ASTM Test Method ^{a/}
Distillation temp., deg F (deg C):		D86
Initial boiling point (max.)	131° F (55° C)	
Not less than 10% evaporation	167° F (75° C)	
Not less than 50% evaporation	284° F (140° C)	
Not less than 90% evaporation	392° F (200° C)	
End point (max.)	437° F (225° C)	
Natural residue (max.)	2%	

^{a/} Pursuant to s. 168.07, Stats., the latest revision of the ASTM Book of Standards of the American Society for Testing and Materials shall be used.

- (b) Automotive gasoline. Any petroleum product designated by name or reference as automotive gasoline shall meet the requirements of tables 10.04-B1 and 10.04-B2.

TABLE 10.04-B1
REQUIREMENTS FOR AUTOMOTIVE GASOLINE

Test	Gasoline Volatility Class			ASTM Test Method ^{a/}
	C	D	E	
Distillation temperature, deg F (deg C):				D86
10% Evaporation (max.)	140° F (60° C)	131° F (55° C)	122° F (50° C)	
50% Evaporation (min.)	170° F (77° C)	170° F (77° C)	170° F (77° C)	
50% Evaporation (max.)	240° F (116° C)	235° F (113° C)	230° F (110° C)	
90% Evaporation (max.)	365° F (185° C)	365° F (185° C)	365° F (185° C)	
End Point (max.)	437° F (225° C)	437° F (225° C)	437° F (225° C)	
Residue (max.)	2%	2%	2%	
Vapor/Liquid Ratio				D2533
Test temperature	124° F (51° C)	116° F (47° C)	105° F (41° C)	
Vapor/liquid (max.)	20	20	20	
Reid Vapor Pressure (psi max.)	11.5	13.5	15.0	D323 or D2551
Lead Content (g/gal. max.)				D2547
Unleaded	.05	.05	.05	(Below 0.5 g/gal. use D2547, D2599 or D3237)
Conventional	4.2	4.2	4.2	
Corrosion (copper strip) (max.)	No. 1	No. 1	No. 1	D130
Gum (mg/100 ml, max.)	5	5	5	D381
Sulfur (weight, % max.)				D1266 or D2622
Leaded	0.25	0.25	0.25	
Unleaded	0.25	0.25	0.25	
Anti-Knock Index ^{b/}				D2700, D2885 or D2699

^{a/} Pursuant to s. 168.07, Stats., the latest revision of the ASTM Book of Standards of the American Society for Testing and Materials shall be used.

^{b/} The anti-knock index $[\frac{(R + M)}{2}]$ shall be posted on the pump and the number shall be rounded off to a whole number or half number equal to or less than the determined octane rating.

Note: Under an emergency situation, such as a shortage of gasoline, the department may accept the requirements established in the ASTM Emergency Standard Specifications for Automotive Gasoline (ES 5-79).

TABLE 10.04-B2
WISCONSIN SCHEDULE OF SEASONAL VOLATILITY CLASSES

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
E	E	E/D	D	D/C	C	C	C	C	C/D	D/E	E

- (c) Gasoline/alcohol-ether blends. Alcohol-ether may be added to gasoline provided the original gasoline product meets the requirements of section Ind 10.04 (1) (b). The alcohol or ether concentrations shall not exceed the following:
1. Methyl tertiary butyl ether (MTBE). A concentration of 7 volume percent or less.
 2. Tertiary butyl alcohol (TBA). A concentration of 7 volume percent or less.
 3. Ethyl alcohol. A concentration of 10.5 volume percent or less.
 4. Methyl alcohol. A concentration of one volume percent or less. Department approval is required on any concentrations exceeding the one volume percent.
- (2) Aviation gasoline. Any petroleum product designated as aviation gasoline shall meet the requirements of Table 10.04-C.

TABLE 10.04-C
REQUIREMENTS FOR AVIATION GASOLINES ^{a/}

Minimum Grade Requirements	Grade 80	Grade 100	Grade 100LL	ASTM Test Method ^{b/}
Knock value, min. octane number, lean rating	80	100	100	D 2700 ^{c/}
Knock value, min. octane number, rich rating	87	isooctane plus 1.28 ml of tetraethyllead per gallon	isooctane plus 1.28 ml of tetraethyllead per gallon	D 909
Color	red	green	blue	D 2392
Dye content:				
Permissible blue dye, max. mg/gal	0.5	4.7	5.7	
Permissible yellow dye, mg/gal	none	5.9	none	
Permissible red dye, max. mg/gal	8.65	none	none	
Tetraethyllead ^{d/} , max. ml/gal	0.5	4.0	2.0	D 2547, D 2599 or D 3341
Net heat of combustion, min. Btu/lb	18 720	18 720	18 720	D 1405 or D 3338

Requirements for all Grades

Distillation temperature, deg F (deg C):			
10% evaporated, max. temp.		167 (75)	D 86
40% evaporated, min. temp.		167 (75)	
50% evaporated, max. temp.		221 (105)	
90% evaporated, max. temp.		275 (135)	
Final boiling point, max. deg F (deg C)		338 (170)	
Sum of 10 and 50% evaporated temperatures, min. deg F (deg C)		307 (135)	
Distillation recovery, min. percent		97	
Distillation residue, max. percent		1.5	
Distillation loss, max. percent		1.5	
Acidity of distillation residue		shall not be acid	D 1093
Vapor pressure, max. lb.		7.0	D 323 or D 2551
Copper strip corrosion, max		No. 1	D 130
Potential gum (5 h aging gum), max. mg/100 ml		6	D 873
Visible lead precipitate ^{e/} , max. mg/100 ml		3	D 873
Sulfur, wt. max., percent		0.05	D 1266 or D 2622
Freezing point, max. deg F (deg C)		-72 (-58)	D 2386
Water reaction		volume change not to exceed \pm 2 ml	D 1094
Permissible antioxidants ^{f/} , max. lb/1000 bbl (42 gal)		4.2	

^{a/} Aviation gasoline shall be free from water, sediment and suspended matter. The odor of the fuel shall not be nauseating or irritating. No substances of known dangerous toxicity under usual conditions of handling and use shall be present.

^{b/} Pursuant to s. 168.07, Stats., the latest revision of the ASTM Book of Standards of the American Society for Testing Materials shall be used.

^{c/} The knock values shown in Table 10.04 represent aviation method ratings. Motor octane ratings obtained by ASTM method D 2700 should be converted to aviation ratings, or method D 614 may be used to obtain ratings directly. (See Appendix for conversion table.)

^{d/} The tetraethyllead shall be added in the form of an antiknock mixture containing not less than 61 weight percent of tetraethyllead and sufficient ethylene dibromide to provide 2 bromine atoms per atom of lead. The balance shall contain no added ingredients other than kerosene, and an approved inhibitor, and blue dye.

^{e/} The visible lead precipitate requirement applies only to leaded fuels.

^{f/} Permissible antioxidants are as follows:

- N, N' - diisopropyl-para-phenylenediamine
- N, N' - di-secondary-butyl-para-phenylenediamine
- 2, 4 - dimethyl-6-tertiary-butylphenol
- 2, 6 - ditertiary butyl-4-methylphenol
- 2, 6 - ditertiary butylphenol

Mixed tertiary butylphenols, composition:

- 75% 2, 6 - ditertiary butylphenol
- 10 to 15% 2, 4, 6 - tritertiary butylphenol
- 10 to 15% o-tertiary butylphenol.

72% min 2, 4-dimethyl-6-tertiary butylphenol, and 28% max monomethyl and dimethyl tertiary butylphenols.

These inhibitors may be added to the gasoline separately or in combination, in total concentration not to exceed 4.2 lb of inhibitor (not including weight of solvent) per 1000 bbl (42 gal).

Ind 10.05 MINIMUM KEROSENE SPECIFICATIONS. Any petroleum product designated by name or reference as "kerosene" shall meet the minimum requirements specified in Table 10.05.

TABLE 10.05
CHEMICAL AND PHYSICAL REQUIREMENTS FOR KEROSENE

Property	Limit	ASTM TEST Method ^{a/}
Appearance:		
Color, min.	+16	D 156
Composition:		
Mercaptan sulfur, ppm max.	30 ^{b/}	D 1323
Sulfur, weight % max.	0.30	D 1266 or D 2622
Volatility:		
Distillation, temperature, deg F (deg C)		D 86
10% recovered, max.	401 (205)	
Final boiling point, max.	572 (300)	
Flash point, deg F (deg C)	100 (38)	D 56 or D 3243 (D 56 shall be used in referee decision)
Corrosion:		
Corrosion, 3 h at 212° F (100° C), max.	No. 3	D 130

^{a/} Pursuant to s. 168.07, Stats., the latest revision of the ASTM Book of Standards of the American Society for Testing and Materials shall be used

^{b/} The mercaptan sulfur determination may be waived if the fuel is considered sweet by the Doctor test.

Ind 10.06 FUEL OIL SPECIFICATIONS. Any petroleum product designated by name as No. 1 or No. 2 fuel oil shall meet the requirements specified in Table 10.06.

TABLE 10.06
REQUIREMENTS FOR FUEL OILS ^{a/}

Test	Grade of Fuel Oil		ASTM Test Method ^{b/}
	No. 1	No. 2	
Flash point, deg F (deg C), min.	100 (38)	100 (38)	D 93 or D 56 (D 93 shall be used in cases of dispute)
Pour point, deg F (deg C), max.	0 (-18) ^{c/}	20 (-6) ^{c/}	D 97
Water and sediment, vol %, max.	0.05	0.05	D 1796
Carbon residue on 10% bottoms, % max.	0.15	0.35	D 524
Distillation temperatures, deg F (deg C)			D 86
10% point, max.	420 (215)	--	
90% point, max.	--	540 (282) ^{d/}	
90% point, max.	550 (288)	640 (338)	
Gravity, deg API, min.	35	30	D 287
Specific gravity 60/60° F, max.	(0.8499)	(0.8762)	
Corrosion (copper strip), max.	No. 3	No. 3	D 130
Sulfur, percent, max.	0.5	0.5	D 129 or D 1552 or D 2622 or D 1266 (No. 1 grade only)

^{a/} It is the intent of these classifications that failure to meet any requirement of a given grade does not automatically place an oil in the next lower grade unless in fact it meets all requirements of the lower grade.

^{b/} Pursuant to s. 168.07, Stats., the latest revision of the ASTM Book of Standards of the American Society for Testing and Materials shall be used.

^{c/} Lower or higher pour points may be specified whenever required by conditions of storage or use. When pour point less than 0° F (-18° C) is specified, the minimum 90% distillation temperature may be waived.

^{d/} Seasonal blending to accommodate cold weather operation may be necessary and in such cases the minimum 90% distillation temperature requirement for No. 2 may be waived.

Ind 10.07 DIESEL FUEL OILS. Any petroleum product designated as No. 1 or No. 2 diesel fuel shall meet the requirements specified in Table 10.07.

TABLE 10.07
REQUIREMENTS FOR DIESEL FUEL OILS

Test	Grade of Diesel Fuel Oil		ASTM Test Method ^{a/}
	No. 1-D	No. 2-D	
Flash point, deg F (deg C), min.	100 (38)	100 (38)	D 93 or D 56 (D 93 shall be used in cases of dispute)
Water and sediment, vol. %, max.	0.05	0.05	D 1796
Distillation temp., deg F (deg C)			D 86
90% point, min.	--	540 (282) ^{b/}	
90% point, max.	550 (288)	640 (338)	
Corrosion (copper strip), max.	No. 3	No. 3	D 130
Sulfur, weight, percent	0.50	0.50	D 129
Cetane number ^{c/}	40	40	D 613

^{a/} Pursuant to s. 168.07, Stats., the latest revision of the ASTM Book of Standards of the American Society for Testing and Materials shall be used.

^{b/} Seasonal blending to accommodate cold weather operation may be necessary and in such cases the minimum 90% distillation temperature requirement for No. 2-D may be waived.

^{c/} Where cetane number by method D 613 is not available, ASTM method D 976, Calculated Cetane Index of Distillate Fuels, may be used as an approximation. Where there is disagreement, method D 613 shall be the referee method.

Ind 10.08 OCTANE POSTING. The minimum octane rating of all automotive gasoline products offered for sale to consumers shall be posted on the gasoline dispenser.

Note: The Federal Trade Commission (FTC), Title 16 Commercial Practices, Chapter 1, Part 306, establishes requirements for octane certification and posting. The FTC rules on label specifications are printed in the Appendix.

PART III--INSPECTION PROCEDURES

Sections Ind 10.09, 10.10 and 10.11 are created to read:

Ind 10.09 INSPECTION PROCEDURES. (1) Inspection of petroleum products. All petroleum products imported into and received in this state shall be sampled by the department prior to being unloaded, sold, offered for sale or used.

(a) Exceptions. The inspection of petroleum products does not apply in the following situations:

1. Petroleum products previously inspected by the department at the refinery or at a marine or pipeline terminal within or without the state.
2. Where the department permits unloading of ships or boats due to an emergency declared by the coast guard or where a permit has been granted by the department.
3. To users of petroleum products which have inspection procedures certified by the department.

(2) Notification for inspection. (a) The recipient of all petroleum products received on Monday through Friday shall notify the department between the hours of 7:45 a.m. and 4:30 p.m. The department shall be notified of any petroleum products received after 4:30 p.m. or received on a Saturday, Sunday or any legal holiday, between the hours of 7:45 a.m. and 10:00 a.m. of the next regular working day.

(b) If a person transfers one grade of a petroleum product into a container with another grade of petroleum product, the entire commingled product shall be deemed uninspected and the department shall be notified.

(c) If no sample is taken by an inspector within the time limit specified, the receiver or commingler shall take a true sample of not less than 8 ounces in accordance with the procedures per section Ind 10.09 (3) (b).

(d) After proper notification, the department shall take a sample of the petroleum product in accordance with the following schedule:

<u>Time of notification by recipient</u>	<u>Time of sampling by department</u>
Before 11:45 a.m.	11:45 a.m. - 4:30 p.m. of same day
11:45 a.m. - 4:30 p.m.	Before 11:45 a.m. of following day

Note: Saturdays, Sundays and legal holidays are not considered regular business days.

(3) Sampling procedures. A true sample of at least 8 ounces shall be taken from every shipment of petroleum products, including commingled products, imported into and received in this state.

(a) Department procedures. The department shall inspect each sample of petroleum product and perform the tests, deemed necessary, in accordance with the specifications as outlined in this code.

1. The department shall issue an inspection certificate if the petroleum product meets the specifications set forth in this code.
 2. If the petroleum product does not meet the standards specified in this code, the department will notify the person for whom the inspection was made that the petroleum product shall not be sold, used or removed from storage until compliance with the standards are satisfied.
- (b) Sampling procedures by others. Recipients of petroleum products and users of petroleum products which have been certified by the department shall comply with the following sampling procedures.
1. The sample shall be taken in the presence of a disinterested person.
 2. The petroleum sample shall be placed in a clean container which can be tightly closed.
 3. The container holding the sample shall be identified with the following information:
 - a. Means of conveyance (i.e., from a pipeline, tank car);
 - b. Type of original container;
 - c. Product name;
 - d. Content quantity.
 4. Upon request, the sample taken shall be held for delivery to the inspector.

Ind 10.10 LABELING OF DISPENSERS AND CONTAINERS. (1) Dispensing equipment. All equipment dispensing petroleum products, at filling stations, garages or other places where petroleum products are sold or offered for sale, shall be marked with a conspicuous label indicating the name and grade of the petroleum product.

- (a) Any pipeline, hose, pump or metering device used for dispensing petroleum products shall be properly flushed and cleaned before dispensing a dissimilar petroleum product.
- (2) Storage containers. All containers for storing gasoline shall be metal or materials meeting the standards approved by the department and all containers shall be labeled and colored red. These requirements do not apply to the following:
- (a) Exception No. 1. Fuel supply tanks connected to internal combustion engines, appliances or any device consuming the fuel.
 - (b) Exception No. 2. Any container holding one gallon or less of a petroleum product, which was filled originally by a manufacturer or a packager, and which complies with the federal standards for packaging and labeling.
 - (c) Exception No. 3. Kerosene, diesel fuel, burner fuel oils and similar products of petroleum with a flash point of 100° F (38° C) or greater shall not be stored in any container colored red.
 - (d) Exception No. 4. Containers having a capacity of 275 gallons or more.

- (3) Mislabeling. No person shall receive, unload, use, sell or offer for sale any petroleum products which are misidentified as to name or grade.
- (a) Reclaimed oils. Any person representing, advertising, promoting for sale, offering for sale or selling any lubricating oil which has previously been used shall identify the product as such. The label shall contain the appropriate and descriptive words of "reclaimed, rerefined, recleaned or reconditioned used lubricating oil."

Ind 10.11 RECORDS. (1) Department records. The department shall keep records of each inspection made showing:

- (a) Time and place of each inspection;
(b) Number of 50 gallon barrels inspected;
(c) Number of gallons contained in the original container;
(d) Amount of fees;
(e) Product name of petroleum product inspected;
(f) Name and address of person for whom inspection is made.
- (2) Transportation records. Every person transporting petroleum products shall maintain records showing the shipment or receipt of petroleum products. The department shall have free access to the records for the purpose of determining the amount of petroleum products shipped or received.
- (3) Receipt records. Every person receiving petroleum products shall maintain records, together with bills of lading, waybills and other pertinent documents, for at least 3 years, unless approval to the contrary is obtained from the department in writing. The department shall have free access to the records for the purpose of determining the amount of petroleum products shipped or received.

Part II (heading) is renumbered PART IV--CERTIFICATION OF PETROLEUM PRODUCT USERS

Section Ind 10.13 is repealed.

Section Ind 10.14 is renumbered Ind 10.13.

Section Ind 10.15 is renumbered Ind 10.14.

Section Ind 10.16 is renumbered Ind 10.15.

Subsection Ind 10.15 (1), as renumbered, is repealed and recreated to read:

Ind 10.15 LABORATORY TEST PROCEDURES. (1) Scope of test procedures. The department shall inspect the laboratory facilities and shall determine the applicant's capability to perform the following laboratory test procedures for the petroleum product for which the applicant is to be certified.

- (a) Gasoline (minimum).
1. Distillation.
- (b) Automotive gasoline.
1. Distillation;
2. Vapor/liquid ratio;
3. Reid vapor pressure;
4. Lead content;
5. Corrosion;
6. Gum;
7. Sulfur.

- (c) Aviation gasoline.
1. Knock value (lean rating);
 2. Knock value (rich rating);
 3. Color;
 4. Tetraethyllead;
 5. Net heat of combustion;
 6. Distillation;
 7. Acidity of distillation residue;
 8. Vapor pressure;
 9. Corrosion (copper strip);
 10. Gum;
 11. Visible lead precipitate;
 12. Sulfur;
 13. Freezing point;
 14. Water reaction.

- (d) Kerosene.
1. Color;
 2. Mercaptan sulfur;
 3. Distillation;
 4. Flash point;
 5. Corrosion.

- (e) Fuel oils.
1. Flash point;
 2. Pour point;
 3. Water and sediment;
 4. Carbon residue;
 5. Distillation;
 6. Specific gravity (deg. API)
 7. Corrosion (copper strip);
 8. Sulfur.

Note: If deemed necessary, the department may waive the test procedures for carbon residue and corrosion.

- (f) Diesel fuel oils.
1. Flash point;
 2. Water and sediment;
 3. Distillation;
 4. Corrosion (copper strip);
 5. Sulfur;
 6. Cetane number.

Note: The department will accept the latest revision of the American Society for Testing and Materials (ASTM) standard test methods, including reproducibility limits, as listed in the Appendix.

Subsection Ind 10.15 (2) (a), as renumbered, is amended to read:

- (a) Test samples. When deemed necessary, the department shall take test samples to confirm the petroleum product user's test results. Test samples shall be retained for a minimum of 3 months.

Section Ind 10.17 is renumbered Ind 10.16.
Section Ind 10.18 is renumbered Ind 10.17.
Section Ind 10.19 is renumbered Ind 10.18.
Section Ind 10.20 is renumbered Ind 10.19.
Section Ind 10.21 is renumbered Ind 10.20.

APPENDICES

Appendix A - Aviation Gasoline Conversion Table

Appendix B - Label Specifications

Appendix C - ASTM Test Methods

APPENDIX A

AVIATION GASOLINE CONVERSION TABLE

CONVERSION FROM MOTOR METHOD RATINGS
TO CORRESPONDING AVIATION METHOD RATINGS^{a/}

Motor Octane Number	0.0	0.2	0.4	0.6	0.8
75	73.59	73.81	74.04	74.27	74.49
76	74.72	74.95	75.17	75.40	75.63
77	75.85	75.08	76.30	76.53	76.75
78	76.98	77.20	77.43	77.65	77.88
79	78.10	78.33	78.55	78.77	79.00
80	79.22	79.44	79.67	79.89	80.11
81	80.33	80.55	80.78	81.00	81.22
82	81.44	81.66	81.88	82.10	82.32
83	82.55	82.77	82.99	83.21	83.43
84	83.65	83.86	84.08	84.30	84.52
85	84.74	84.96	85.18	85.40	85.61
86	85.83	86.05	86.27	86.48	86.70
87	86.92	87.13	87.35	87.57	87.78
88	88.00	88.22	88.43	88.65	88.86
89	89.08	89.29	89.51	89.72	89.94
90	90.15	90.37	90.58	90.79	91.01
91	91.22	91.43	91.65	91.86	92.07
92	92.29	92.50	92.71	92.92	93.13
93	93.35	93.56	93.77	93.98	94.19
94	94.40	94.61	94.82	95.04	95.25
95	95.46	95.67	95.88	96.09	96.29
96	96.50	96.71	96.92	97.13	97.34
97	97.55	97.76	97.96	98.17	98.38
98	98.57	98.74	98.91	99.08	99.26
99	99.43	99.60	99.78	99.95	100.44
100	101.07	101.60	102.14	102.67	103.21
101	103.74	104.27	104.81	105.34	105.88
102	106.41	106.94	107.48	108.01	108.55
103	109.08	109.61	110.51	110.68	111.22
104	111.75	112.28	112.82	113.35	113.89
105	114.42	114.95	115.49	116.02	116.56
106	117.09	117.62	118.16	118.69	119.23
107	119.76	120.29	120.83	121.36	121.90
108	122.43	122.96	123.50	124.03	124.57
109	125.10	125.63	126.17	127.70	127.24
110	127.77	128.30	128.84	129.37	129.91

Equations: Correlation equations--reference report "Aviation Gasoline Antiknock Quality by ASTM Methods D 614 and D 357," June 21, 1966, Fig. 4.
 Less than 93 motor performance number (97.89 motor octane number).
 Aviation performance number = $-5.6 + 1.08$ (motor performance number).
 Greater than 93 motor performance number.
 Aviation performance number = $12.07 + 0.89$ (motor performance number).
 Conversion equations--
 Below 100: performance number = $2800 / (128 - \text{octane number})$
 Above 100: performance number = $100 + (\text{octane number} - 100)3$

^{a/}Octane numbers in *italics*, performance numbers in "regular" type.

APPENDIX B

FEDERAL TRADE COMMISSION'S
RULING ON OCTANE CERTIFICATION AND POSTING

LABEL SPECIFICATIONS

306.11 LABELS.

All labels must meet the following specifications:

(a) Layout. The label is 3" wide x 2-1/2" long. The illustrations appearing at the end of this rule are prototype labels that demonstrate the proper layout. Helvetica type is used throughout except for the octane rating number which is in Franklin gothic type. Spacing of the label is 1/4" between the top border and the first line of text, 1/8" between the first and second line of text, 1/4" between the octane rating and the line of text above it. All text and numerals are centered within the interior borders.

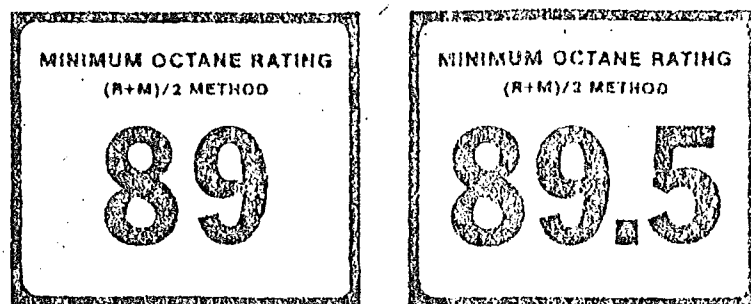
(b) Type size and setting. The Helvetica series is used for all numbers and letters with the exception of the octane rating number. Helvetica is available in a variety of phototype setting systems and by linotype. The line "MINIMUM OCTANE RATING" is set in 12 point Helvetica Bold, all capitals, with letterspace set at 12-1/2 points. The line "(R+M)/2 METHOD" is set in 10 point Helvetica Bold, all capitals, with letterspace set at 10-1/2 points. The octane number is set in 96 point Franklin gothic condensed with 1/8" space between the numbers.

(c) Colors. The basic color on all labels is process yellow. All type is process black. All borders are process black. Both colors must be non-fade.

(d) Contents. The contents are shown in the illustration. The proper octane rating for each gasoline must be shown. No marks or information other than that called for by this rule may appear on the label.

(e) Special label protection. All labels must be capable of withstanding extremes of weather conditions for a period of at least one year. They must be resistant to gasoline, oil, grease, solvents, detergents, and water.

(f) Illustrations of labels. Labels should meet the specifications in this section, and should look like these examples, except the black print should be on a yellow background.



APPENDIX C

ASTM TEST METHODS

D 56	Test for Flash Point by Tag Closed Tester
D 86	Test for Distillation of Petroleum Products
D 93	Test for Flash Point by Pensky-Martens Closed Tester
D 97	Test for Pour Point of Petroleum Oils
D 129	Test for Sulfur in Petroleum Products by the Bomb Method
D 130	Test for Copper Corrosion by Petroleum Products, Copper Strip Test
D 156	Test for Saybolt Color of Petroleum Products (Saybolt Chromometer Method)
D 287	Test for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method)
D 323	Test for Vapor Pressure of Petroleum Products (Reid Method)
D 381	Test for Existent Gum in Fuels by Jet Evaporation
D 524	Test for Ramsbottom Carbon Residue of Petroleum Products
D 613	Test for Ignition Quality of Diesel Fuels by the Cetane Method
D 614	Test for Knock Characteristics of Aviation Fuels by the Aviation Method
D 873	Test for Oxidation Stability of Aviation Fuels (Potential Residue Method)
D 909	Test for Knock Characteristics of Aviation Fuels by the Supercharge Method
D 1093	Test for Acidity of Distillation Residues of Hydrocarbon Liquids
D 1094	Test for Water Reaction of Aviation Fuels
D 1266	Test for Sulfur in Petroleum Products (Lamp Method)
D 1323	Tests for Mercaptan Sulfur in Aviation Turbine Fuels Amperometric and Potentiometric Methods)
D 1405	Test for Estimation of Net Heat of Combustion of Aviation Fuels
D 1552	Sulfur in Petroleum Products, High-Temperature Method
D 1796	Test for Water and Sediment in Fuel Oils by Centrifuge
D 2386	Test for Freezing Point of Aviation Fuels
D 2392	Test for Color of Dyed Aviation Gasolines
D 2533	Test for Vapor-Liquid Ratio of Gasoline
D 2547	Test for Lead in Gasoline, Volumetric Chromate Method
D 2551	Test for Vapor Pressure of Petroleum Products (Micromethod)
D 2599	Test for Lead in Gasoline by X-Ray Spectrometry

- D 2622 Sulfur in Petroleum Products (X-ray Spectrographic Method)
- D 2699 Test for Knock Characteristics of Motor Fuels by the Research Method
- D 2700 Test for Knock Characteristics of Motor and Aviation Type Fuels by the Motor Method
- D 2885 Research and Motor Method Octane Ratings Using On-line Analyzers
- D 3237 Lead in Gasoline by Atomic Absorption Spectrometry
- D 3243 Test for Flash Point of Aviation Turbine Fuels by Setaflash Closed Tester
- D 3338 Estimation of Heat of Combustion of Aviation Fuels
- D 3341 Test for Lead in Gasoline (Iodine Monochloride Method)