

Glossary

API Gravity: An arbitrary scale expressing the gravity or density of liquid petroleum products. The measuring scale is calibrated in terms of degrees API; it may be calculated in terms of the following formula:

$$\text{Deg API} = \frac{1415}{\text{sp gr}_{60\text{degF}} / 60\text{degF}} - 1315$$

The higher the API gravity, the lighter the compound. Light crudes generally exceed 38 degrees API and heavy crudes are commonly labeled as all crudes with an API gravity of 22 degrees or below. Intermediate crudes fall in the range of 22 degrees to 38 degrees API gravity.

ASTM: American Society for Testing and Materials.

Aviation Gasoline (Finished): A complex mixture of relatively volatile hydrocarbons with or without small quantities of additives, blended to form a fuel suitable for use in aviation reciprocating engines. Fuel specifications are provided in ASTM Specification D 910 and Military Specification MIL-G-5572. *Note:* Data on blending components are not counted in data on finished aviation gasoline.

Barrel: A volumetric unit of measure for crude oil and petroleum products equivalent to 42 U.S. gallons.

Bulk Sales: Wholesale sales of petroleum products in individual transactions which exceed the size of a truckload.

CIF: Cost, insurance, and freight. A type of sale in which the buyer of the product agrees to pay a unit price that includes the f.o.b. value of the product at the point of origin plus all costs of insurance and transportation. This type of transaction differs from a "delivered" purchase, in that the buyer accepts the quantity as determined at the loading port (as certified by the bill of lading and quality report) rather than pay based on the quantity and quality ascertained at the unloading port. It is similar to the terms of an f.o.b. sale, except that the seller, as a service for which he is compensated, arranges for transportation and insurance.

Commercial Sector: An energy-consuming sector that consists of service-providing facilities and equipment of businesses; Federal, State, and local governments; and other private and public organizations, such as religious, social, or fraternal groups. The commercial sector includes institutional living quarters. Common uses of energy associated with this sector include space heating, water heating, air conditioning, lighting, refrigeration, cooking, and running a wide variety of other equipment.

Conventional Gasoline: See Motor Gasoline.

Crude Oil: A mixture of hydrocarbons that exists in liquid phase in natural underground reservoirs and remains liquid at atmospheric pressure after passing through surface separating facilities. Depending upon the characteristics of the crude stream, it may also include:

1. Small amounts of hydrocarbons that exist in gaseous phase in natural underground reservoirs but are liquid at atmospheric pressure after being recovered from oil well (casinghead) gas in lease separators and are subsequently commingled with the crude stream without being separately measured. Lease condensate recovered as a liquid from natural gas wells in lease or field separation facilities and later mixed into the crude stream is also included;
2. Small amounts of nonhydrocarbons produced with the oil, such as sulfur and various metals;
3. Drip gases, and liquid hydrocarbons produced from oil sands, gilsonite, and oil shale.

Liquids produced at natural gas processing plants are excluded. Crude oil is refined to produce a wide array of petroleum products, including heating oils; gasoline, diesel and jet fuels; lubricants; asphalt;

ethane, propane, and butane; and many other products used for their energy or chemical content.

Crude oil is considered as either domestic or imported according to the following:

1. **Domestic Crude Oil:** Crude oil produced in the United States or from its "outer continental shelf" as defined in 43 U.S.C. 1331.
2. **Imported Crude Oil:** Crude oil produced outside the United States and brought into the United States.
3. **First purchase volume and cost data** for crude oil are classified in accordance with what the product was sold as, regardless of the actual specifications. Hence, its volumes may include some of the excluded liquids discussed above.

Crude Oil Acquisitions (unfinished oil acquisitions):

The volume of crude oil either (1) acquired by the respondent for processing for its own account in accordance with accounting procedures generally accepted and consistently and historically applied by the refiner concerned, or (2) in the case of a processing agreement, delivered to another refinery for processing for the respondent's own account.

Crude oil which has been added by a refiner to inventory, and which is thereafter sold or otherwise disposed of without processing for the account of that refiner, shall be deducted from its crude oil purchases at the time when the related cost is deducted from refinery inventory in accordance with accounting procedures generally applied by the refiner concerned.

Dealer Tank Wagon (DTW) Sales: Wholesale sales of petroleum products priced on a delivered basis to a retail outlet.

Distillate Fuel Oil: A general classification for one of the petroleum fractions produced in conventional distillation operations. Products known as No. 1, No. 2, and No. 4 diesel fuel are used in on-highway diesel engines, such as those in railroad locomotives and agricultural machinery. Products known as No. 1, No. 2, and No. 4 fuel oils are used primarily for space heating and electric power generation.

1. **No. 1 Distillate:** A light petroleum distillate that can be used as either a diesel fuel (see **No. 1 Diesel Fuel**) or a fuel oil (see **No. 1 Fuel Oil**).

- a. **No. 1 Diesel Fuel:** A light distillate fuel oil that has a distillation temperature of 550 degrees Fahrenheit at the 90-percent recovery point and meets the specifications defined in ASTM Specification D 975. It is used in high speed diesel engines generally operated under frequent speed and load changes, such as those in city buses and similar vehicles. See **No. 1 Distillate**.

- b. **No. 1 Fuel Oil:** A light distillate fuel oil that has distillation temperatures of 400 degrees Fahrenheit at the 10-percent recovery point and 550 degrees Fahrenheit at the 90-percent recovery point and meets the specifications defined in ASTM Specification D 396. It is used primarily as fuel for portable outdoor stoves and portable outdoor heaters. See **No. 1 Distillate**.

2. **No. 2 Distillate:** A petroleum distillate that can be used as either a diesel fuel (see **No. 2 Diesel Fuel**) or a fuel oil (see **No. 2 Fuel Oil**).

- a. **No. 2 Diesel Fuel:** A distillate fuel oil that has a distillation temperature of 640 degrees Fahrenheit at the 90-percent recovery point and meets the specifications defined in ASTM Specification D 975. It is used in high-speed diesel engines that are generally operated under uniform speed and load conditions, such as those in railroad locomotives, trucks, and automobiles. See **No. 2 Distillate**.

- **Ultra-Low-Sulfur No. 2 Diesel Fuel:** No. 2 diesel fuel that has a sulfur level no higher than 15 ppm. It is used primarily in motor vehicle diesel engines for on-highway use.

- **Low-Sulfur No. 2 Diesel Fuel:** No. 2 diesel fuel that has a sulfur level between 15 ppm and 500 ppm (inclusive). It is used primarily in motor vehicle diesel engines for on-highway use.

- **High-Sulfur No. 2 Diesel Fuel:** No. 2 diesel fuel that has a sulfur level above 500 ppm.

- b. **No. 2 Fuel Oil (Heating Oil):** A distillate fuel oil that has a distillation temperature

of 640 degrees Fahrenheit at the 90-percent recovery point and meets the specifications defined in ASTM Specification D 396. It is used in atomizing type burners for domestic heating or for moderate capacity commercial/industrial burner units. See **No. 2 Distillate**.

NOTE: Published volume and price data for No. 2 diesel fuel and No. 2 fuel oil are classified in accordance to what the product was sold as, regardless of the actual specifications of that product; i.e., if a No. 2 distillate was sold as a heating or fuel oil, the volume and price would be published in the category "No. 2 Fuel Oil" even if the product conformed to the higher specifications of a diesel fuel.

- 3. No. 4 Fuel:** A distillate fuel oil made by blending distillate fuel oil and residual fuel oil stocks. It conforms with ASTM Specification D 396 or Federal Specification VV-F-815C and is used extensively in industrial plants and in commercial burner installations that are not equipped with preheating facilities. It also includes No. 4 diesel fuel used for low-and medium-speed diesel engines and conforms to ASTM Specification D 975.

First Purchase (of crude oil): An equity (not custody) transaction involving an arms-length transfer of ownership of crude oil associated with the physical removal of the crude oil from a property (lease) for the first time. A first purchase normally occurs at the time and place of ownership transfer where the crude oil volume sold is measured and recorded on a run ticket or other similar physical evidence of purchase. The reported cost is the actual amount paid by the purchaser, allowing for any adjustments (deductions or premiums) passed on to the producer or royalty owner.

F.o.b. Price (free on board): The f.o.b. price is the price actually charged at the producing country's port of loading. The reported price includes deductions for any rebates and discounts or additions of premiums where applicable and should be the actual price paid with no adjustment for credit terms.

Gas Plant Operator: Any firm, including a gas plant owner, which operates a gas plant and keeps the gas plant records. A gas plant is a facility in which natural gas liquids are separated from natural gas, or in which natural gas liquids are fractionated or otherwise separated into natural gas liquid products or both. For

the purposes of this publication, gas plant operator data are contained in the refiner categories.

Gasohol: A blend of finished motor gasoline containing alcohol (generally ethanol but sometimes methanol) at a concentration of 10 percent or less by volume. Data on gasohol that has at least 2.7 percent oxygen, by weight, and is intended for sale inside carbon monoxide nonattainment areas are included in data on oxygenated gasoline. See **Oxygenates**.

Industrial Sector: An energy-consuming sector that consists of all facilities and equipment used for producing, processing, or assembling goods. The industrial sector encompasses the following types of activity: manufacturing; agriculture, forestry, fishing and hunting; mining including oil and gas extraction; and construction. Overall energy use in this sector is largely for process heat and cooling and powering machinery, with lesser amounts used for facility heating, air conditioning, and lighting. Fossil fuels are also used as raw material inputs to manufactured products.

Kerosene: A light petroleum distillate that is used in space heaters, cook stoves, and water heaters and is suitable for use as a light source when burned in wick-fed lamps. Kerosene has a maximum distillation temperature of 400 degrees Fahrenheit at the 10-percent recovery point, a final boiling point of 572 degrees Fahrenheit, and a minimum flash point of 100 degrees Fahrenheit. Included are No. 1-K and No. 2-K, the two grades of kerosene called range or stove oil, which have properties similar to those of No. 1 fuel oil. See **Kerosene-Type Jet Fuel**.

Kerosene-Type Jet Fuel: A kerosene-based product having a maximum distillation temperature of 400 degrees Fahrenheit at the 10-percent recovery point and a final maximum boiling point of 572 degrees Fahrenheit and meeting ASTM Specification D 1655 and Military Specifications MIL-T-5624P and MIL-T-83133D (Grades JP-5 and JP-8). It is used for commercial and military turbojet and turboprop aircraft engines.

Landed Cost: Landed cost represents the dollar per barrel price of crude oil at the port of discharge. Includes charges associated with the purchase, transporting, and insuring of a cargo from the purchase point to the port of discharge. Does not include charges incurred at the discharge port (e.g., import tariffs or fees, wharfage charges, and demurrage).

Motor Gasoline (Finished): A complex mixture of relatively volatile hydrocarbons with or without small quantities of additives, blended to form a fuel suitable for use in spark-ignition engines. Motor gasoline, as defined in ASTM Specification D-4814 or Federal Specification VV-G-1690B, is characterized as having a boiling range of 122 to 158 degrees Fahrenheit at the 10 percent recovery point to 365 to 374 degrees Fahrenheit at the 90 percent recovery point. "Motor Gasoline" includes conventional gasoline; all types of oxygenated gasoline, including gasohol; and reformulated gasoline, but excludes aviation gasoline. *Note:* Volumetric data on blending components, such as oxygenates, are not counted in data on finished motor gasoline until the blending components are blended into the gasoline.

- 1. Conventional Gasoline:** Finished motor gasoline not included in the oxygenated or reformulated gasoline categories. Excludes reformulated gasoline blendstock for oxygenate blending (RBOB).
- 2. Oxygenated Gasoline:** Finished motor gasoline, other than reformulated gasoline, having an oxygen content of 2.7 percent or higher by weight and required by the U.S. Environmental Protection Agency (EPA) to be sold in areas designated by EPA as carbon monoxide(CO) nonattainment areas. *Note:* Oxygenated gasoline excludes oxygenated fuels program reformulated gasoline (OPRG) and reformulated gasoline blendstock for oxygenate blending (RBOB). Data on gasohol that has at least 2.7 percent oxygen, by weight, and is intended for sale inside CO nonattainment areas are included in data on oxygenated gasoline. Other data on gasohol are included in data on conventional gasoline.
- 3. Reformulated Gasoline.** Finished gasoline formulated for use in motor vehicles, the composition and properties of which meet the requirements of the reformulated gasoline regulations promulgated by the U.S. Environmental Protection Agency under Section 211(k) of the Clean Air Act. It includes gasoline produced to meet or exceed emissions performance and benzene content standards of federal-program reformulated gasoline even though the gasoline may not meet all of the composition requirements (e.g. oxygen content) of federal-program reformulated gasoline. *Note:* This category includes Oxygenated Fuels Program Reformulated Gasoline (OPRG). Reformulated gasoline excludes Reformulated

Blendstock for Oxygenate Blending (RBOB) and Gasoline Treated as Blendstock (GTAB).

Gasoline Grades: The classification of gasoline by octane ratings. Each type of gasoline (conventional, oxygenated, and reformulated) is classified by three grades - Regular, Midgrade, and Premium. *Note:* Gasoline sales are reported by grade in accordance with their classification at the time of sale. In general, automotive octane requirements are lower at high altitudes. Therefore, in some areas of the United States, such as the Rocky Mountain States, the octane ratings for the gasoline grades may be 2 or more octane points lower.

- 1. Regular Gasoline:** Gasoline having an antiknock index, i.e., octane rating, greater than or equal to 85 and less than 88. *Note:* Octane requirements may vary by altitude. See **Gasoline Grades**.
- 2. Midgrade Gasoline:** Gasoline having an antiknock index, i.e., octane rating, greater than or equal to 88 and less than or equal to 90. *Note:* Octane requirements may vary by altitude. See **Gasoline Grades**.
- 3. Premium Gasoline:** Gasoline having an antiknock index, i.e., octane rating, greater than 90. *Note:* Octane requirements may vary by altitude. See **Gasoline Grades**.

MTBE (methyl tertiary butyl ether): An ether eligible for gasoline blending, blends up to 15.0 percent by volume MTBE which must meet the ASTM D 4814 Specifications. Blenders must take precautions that the blends are not used as base gasolines for other oxygenated blends.

Naphtha: A generic term applied to a petroleum fraction with an approximate boiling range between 122 and 400 degrees Fahrenheit.

Naphtha-Type Jet Fuel: A fuel in the heavy naphtha boiling range with an average gravity of 52.8 degrees API, 20 to 90 percent distillation temperatures of 290 degrees to 470 degrees Fahrenheit, and meeting Military Specification MIL-T-5624L (Grade JP-4). It is used primarily for military turbojet and turboprop aircraft engines because it has a lower freeze point than other aviation fuels and meets engine requirements at high altitudes and speeds.

Octane Rating: A number used to indicate gasoline's antiknock performance in motor vehicle engines. The two recognized laboratory engine test methods for determining the antiknock rating, i.e., octane rating, of gasolines are the Research method and the Motor method. To provide a single number as guidance to the consumer, the antiknock index $(R + M)/2$, which is the average of the Research and Motor octane numbers, was developed.

OPEC (Organization of the Petroleum Exporting Countries): An intergovernmental organization whose stated objective is to coordinate and unify petroleum policies among member countries. It was created at the Baghdad Conference on September 10–14, 1960, by Iran, Iraq, Kuwait, Saudi Arabia and Venezuela. The five founding members were later joined by nine other members: Qatar (1961); Indonesia (1962); Libya (1962); United Arab Emirates (1967); Algeria (1969); Nigeria (1971); Ecuador (1973–1992, 2007); Gabon (1975–1994) and Angola (2007).

OPRG: “Oxygenated Fuels Program Reformulated Gasoline” is reformulated gasoline which is intended for use in an oxygenated fuels program control area during an oxygenated fuels program control period.

Other End Users: For motor gasoline, all direct sales to end users other than those made through company outlets. For No. 2 distillate, all direct sales to end users other than residential, commercial/institutional, industrial sales, and sales through company outlets. Included in the “other end users” category are sales to utilities and agriculture.

Oxygenated Gasoline: See Motor Gasoline.

Oxygenates: Substances which, when added to gasoline, increase the amount of oxygen in that gasoline blend. Ethanol, Methyl Tertiary Butyl Ether (MTBE), Ethyl Tertiary Butyl Ether (ETBE), and methanol are common oxygenates.

PAD District: Petroleum Administration for Defense Districts

PAD District I:

Subdistrict IA: Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont.

Subdistrict IB: Delaware, District of Columbia, Maryland, New Jersey, New York, Pennsylvania.

Subdistrict IC: Florida, Georgia, North Carolina, South Carolina, Virginia, West Virginia.

PAD District II:

Illinois, Indiana, Iowa, Kansas, Kentucky, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, Oklahoma, South Dakota, Tennessee, Wisconsin.

PAD District III:

Alabama, Arkansas, Louisiana, Mississippi, New Mexico, Texas, Federal Offshore Gulf.

PAD District IV:

Colorado, Idaho, Montana, Utah, Wyoming.

PAD District V:

Alaska (North Slope and Other Mainland), Arizona, California, Hawaii, Nevada, Oregon, Washington, Federal Offshore California.

Petrochemical Sales: Sales of propane to a manufacturer of chemicals derived from petroleum or natural gas, or from raw materials derived from petroleum or natural gas.

Petroleum Products: Petroleum products are obtained from the processing of crude oil (including lease condensate), natural gas, and other hydrocarbon compounds. Petroleum products include unfinished oils, liquefied petroleum gases, pentanes, plus aviation gasoline, motor gasoline, naphtha-type jet fuel, kerosene, distillate fuel oil, residual fuel oil, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt, road oil, still gas, and miscellaneous products.

Prime Supplier: A firm that produces, imports, or transports selected petroleum products across State boundaries and local marketing areas, and sells the product to local distributors, local retailers, or end users.

Propane, Consumer Grade: A normally gaseous paraffinic compound (C_3H_8), which includes all products covered by Natural Gas Policy Act (NGPA) Specifications for commercial use and HD-5 propane and ASTM Specification D 1835. It is a colorless paraffinic gas that boils at a temperature of -43.67 degrees Fahrenheit. It does not include the propane

portion of any natural gas liquids (NGL) mixes; i.e., butane-propane mix.

Rack Sales: Wholesale truckload sales or smaller of petroleum products where title transfers at a terminal.

RBOB: “Reformulated Gasoline Blendstock for Oxygenate Blending” is a motor gasoline blending component which, when blended with a specified type and percentage of oxygenate, meets the definition of reformulated gasoline.

Reference Month: The calendar month and year to which the reported cost, price, and volume information relates.

Refiner: A firm or the part of a firm that refines products or blends and substantially changes products, or refines liquid hydrocarbons from oil and gas field gases, or recovers liquefied petroleum gases incident to petroleum refining and sells those products to resellers, retailers, resellers/retailers, or ultimate consumers. “Refiner” includes any owner of products which contracts to have those products refined and then sells the refined products to resellers, retailers, or ultimate consumers. For the purposes of this publication, gas plant operator data are included in this category.

Reformulated Gasoline: See Motor Gasoline.

Reseller: A firm (other than a refiner) that carries on the trade or business of purchasing refined petroleum products and reselling them to purchasers other than ultimate consumers.

Reseller/Retailer: A firm (other than a refiner) that carries on the trade or business activities of both a reseller and a retailer; i.e., purchasing refined petroleum products and reselling them to purchasers who may be either ultimate or other than ultimate consumers.

Residential Sector: An energy-consuming sector that consists of living quarters for private households. Common uses of energy associated with this sector include space heating, water heating, air conditioning, lighting, refrigeration, cooking, and running a variety of other appliances. The residential sector excludes institutional living quarters.

Residual Fuel Oil: A general classification for the heavier oils, known as No. 5 and No. 6 fuel oils, that remain after the distillate fuel oils and lighter hydrocarbons are distilled away in refinery operations. It conforms to ASTM Specification D 396 and D 975 and Federal Specification VV-F-815C. No. 5, a residual fuel

oil of medium viscosity, is also known as Navy Special and is defined in Military Specification MIL-F-859E, including Amendment 2 (NATO Symbol F-77). It is used in steam-powered vessels in government service and inshore powerplants. No. 6 fuel oil includes Bunker C fuel oil and is used for the production of electric power, space heating, vessel bunkering, and various industrial purposes.

Retailer: A firm (other than a refiner, reseller, or reseller/retailer) that carries on the trade or business of purchasing refined petroleum products and reselling them to ultimate consumers.

Retail Outlet: Any company-owned outlet (e.g., service station) selling gasoline, on-highway diesel fuel, or propane for on-highway vehicle use which is under the direct control of the firm filing the EIA-782 by virtue of the ability to set the retail product price and directly collect all or part of the retail margin. This category includes retail outlets: (1) being operated by salaried employees of the company and/or its subsidiaries and affiliates, and/or (2) involving personnel services contracted by the firm.

Sale: The transfer of title of an energy commodity from the seller to a buyer for a price or quantity transferred during a specified period. Excludes intrafirm transfers, products consumed directly by the reporting firm, or sales of bonded fuel. Also excludes products delivered/loaned to exchange partners, except where the amount supplied exceeds the amount received and the differential is invoiced as a sale during the reference month.

Sales for Resale: Sales of refined petroleum products to purchasers who are other-than-ultimate consumers; wholesale sales.

Sales to End Users: Sales made directly to the consumer of the product. Includes bulk consumers such as agriculture, industry, and utilities, as well as residential and commercial consumers.

Sales Type: Sales categories of sales to end users and sales for resale.

Stream: Crude oil produced in a particular field or a collection of crude oils with similar qualities from fields in close proximity, which the petroleum industry usually describes with a specific name.

Sulfur: A yellowish nonmetallic element, sometimes known as “brimstone.” It is present at various levels of concentration in many fossil fuels whose

combustion releases sulfur compounds that are considered harmful to the environment. Some of the most commonly used fossil fuels are categorized according to their sulfur content, with lower sulfur fuels usually selling at a higher price. *Note:* No. 2 Distillate fuel is currently reported as having either a 0.05 percent or lower sulfur level for on-highway vehicle use or a greater than 0.05 percent sulfur level for off-highway use, home heating oil, and commercial and industrial uses. Residual fuel, regardless of use, is classified as having either no more than 1 percent sulfur or greater than 1 percent sulfur. Coal is also classified as being low-sulfur at concentrations of 1 percent or less or high-sulfur at concentrations greater than 1 percent.

Unit Price: Total revenue derived from the sale of product during the reference month divided by the total volume sold; also known as the weighted average price. Total revenue excludes all taxes but includes

transportation costs that were paid as part of the purchase price.

United States: For the crude oil statistics, the United States includes the 50 States, the District of Columbia, Puerto Rico, the Virgin Islands, and all American Territories and Possessions. For the petroleum products data, United States includes the 50 States and the District of Columbia.

Wellhead: The point at which the crude (and/or natural gas) exits the ground. Following historical precedent, the volume and price for crude oil production are labeled as “wellhead,” even though the cost and volume are now generally measured at the lease boundary. In the context of domestic crude price data, the term “wellhead” is the generic term used to reference the production site or lease property.