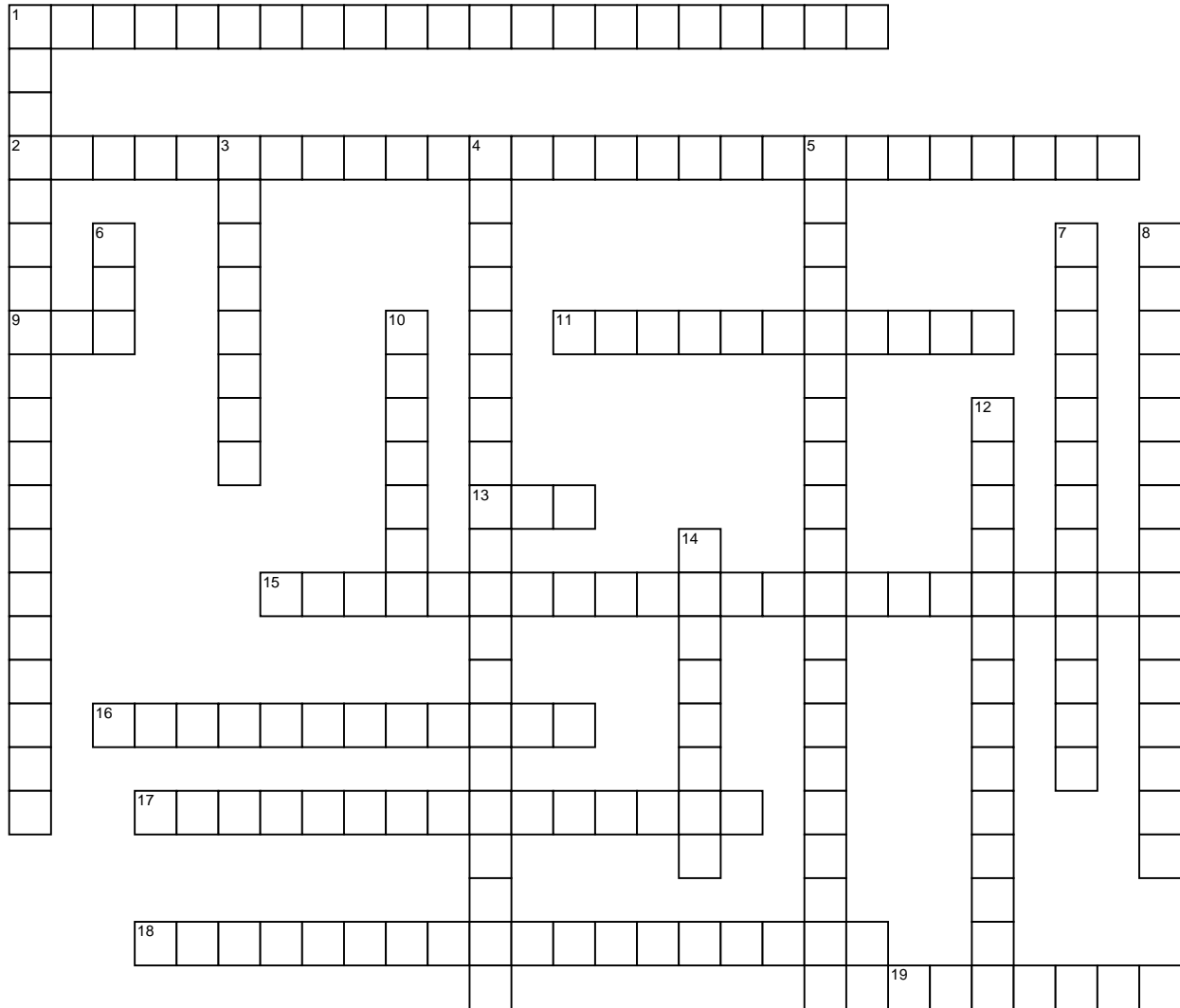




# Alternative Fuels

## Chapter 6



### ACROSS

- 1 \_\_\_\_\_ is a mixture of light gaseous hydrocarbons (ethane, propane, butane, etc.) made liquid by pressure and used as fuel.
- 2 \_\_\_\_\_ is an industrial process which converts coal into product gas.
- 9 \_\_\_\_\_ is 15 percent ethanol and 85 percent unleaded gasoline.
- 11 \_\_\_\_\_ is a refinery process to convert natural gas or other gaseous hydrocarbons into longer-chain hydrocarbons, such as gasoline or diesel fuel.
- 13 \_\_\_\_\_ is 10 percent ethanol and 90 percent unleaded gasoline.
- 15 An \_\_\_\_\_ is a vehicle that runs on a fuel other than traditional petroleum fuels (petrol or Diesel fuel); and also refers to any technology of powering an engine that does not involve solely petroleum.
- 16 The exposure to the catalyst

converts the syngas into liquid and wax products that can be refined into synthetic fuels. The conversion of the syngas is known as \_\_\_\_\_.

- 17 \_\_\_\_\_ occurs when water enters a tank that contains an ethanol/ gasoline blended fuel.
- 18 A \_\_\_\_\_ is an alternative fuel vehicle that uses compressed natural gas (CNG) or liquefied natural gas (LNG) as a cleaner alternative to other fossil fuels.
- 19 \_\_\_\_\_, also commonly called alcohol, ethyl alcohol, and drinking alcohol, is the principal type of alcohol found in alcoholic beverages, produced by the fermentation of sugars by yeasts.

### DOWN

- 1 is natural gas that has been converted to liquid form for ease of storage or transport. It takes up about 1/600th the volume of natural gas in the

gaseous state. It is odorless, colorless, toxic and non-corrosive.

- 3 \_\_\_\_\_ consists mostly of organic compounds obtained by the fractional distillation of petroleum, enhanced with a variety of additives.
- 4 \_\_\_\_\_ can be used in place of gasoline (petrol), Diesel fuel and propane/LPG. CNG combustion produces fewer undesirable gases than the fuels mentioned above.
- 5 A \_\_\_\_\_ or dual-fuel vehicle is an alternative fuel vehicle with an internal combustion engine designed to run on more than one fuel, usually gasoline blended with either ethanol or methanol fuel, and both fuels are stored in the same common tank.
- 6 \_\_\_\_\_ (or flex fuel) is a term that refers to high-level ethanol-gasoline blends containing 51%-83% ethanol, depending on geography and season.
- 7 \_\_\_\_\_ or synfuel is a liquid

fuel, or sometimes gaseous fuel, obtained from syngas, a mixture of carbon monoxide and hydrogen, in which the syngas was derived from gasification of solid feedstocks such as coal or biomass or by reforming of natural gas.

- 8 Oxygenated chemical compounds contain oxygen as a part of their chemical structure. The term usually refers to \_\_\_\_\_.
- 10 \_\_\_\_\_ is a three-carbon alkane with the molecular formula  $C_3H_8$ , a gas, at standard temperature and pressure, but compressible to a transportable liquid.
- 12 The \_\_\_\_\_ process is a set of chemical reactions that converts a mixture of carbon monoxide gas and hydrogen gas into liquid hydrocarbons.
- 14 \_\_\_\_\_ is a toxic, colorless, volatile flammable liquid alcohol, originally made by distillation from wood and now chiefly by oxidizing methane.