How to Make Your Own Gasoline

Gasoline has become a necessity for most people. However, gas is becoming expensive, so more and more people are interested in making their own gasoline. How? Read on to find out how to make gasoline using a Fischer Tropsch process which takes organic garbage and turns it into synthetic gasoline.

Steps

1. **Cap a 5' length of 8" flange stainless steel pipe at both ends.** Ensure the top cap is removable.
2. **Insert 2 1/4" taps in the side for temperature and pressure gauges, and a 1/2" tap in the bottom.**
3. **Run for 3" and then through a 1/32" restriction (1/2" pipe).**
4. **Make a steam tank from 1' of the 8" pipe that sits directly below the gasifier.**
5. **Include a 45-degree t-section in the line to add first 2 and then 1 liter of water per operation.** Cap it up.
6. **Attach the main line (1/2") to the side of the gasifier near the top, then goes to for 12" and then down into the ash filtration unit.**
7. **Put a 1/2" in the side for a 450 psi relief valve.** This unit should run at 800–1,000 °C (1,470–1,830 °F) and around 30 atmospheres.
8. **Make the ash filtration unit out of 1' of the 8" pipe.**
9. **Put the 1/2" inlet pipe down through the 200-mesh screen placed 9" into the filter.**
10. **Fill the top with 1 kg of lime.**
11. **Put a 200-mesh screen in the 1/2" outlet in the top.**
12. **Run a 12" loop of the 1/2" water pipe (Schedule 80) through here too.**
13. **Make everything after this of standard steel - it's much cheaper.**
14. **Run a 1/2" pipe to the 4-way junction.**
15. **Install a valve and a gas regulator (1.9mm venturi expanding to 6" with a 3/4" outlet)on one outlet to reduce the pressure to near normal before going back to the gasifier to heat the reaction from the outside of the unit.**

16 **Build rings of gas nozzles, one column each on 4 sides of the unit, with 6 nozzles each.**

17 **Make a heat shield.** Constructing a heat shield (bricks, etc) over this will work well.

18 **Put a valve on the next pipe that goes to a catalyst maker where the gas flows through a 6" x 24" pipe, through a screen out to a regulator (the same sort from earlier), and is burned on the outside of the unit.**

19 **Place a valve on the pipe going through to the main reactor.**

- To make catalyst, shut off this valve.
- To make fuel, shut off the catalyst maker valve for 4 hours.
- To test the relief valve, close all valves...

20 **Build the main reactor.** Start with 8" by 5' Schedule 80 pipe (anything in this part should be made of S80).

21 **Cap it off at both ends.**

22 **Make a ring of 1/2" coolant pipes around the inside surface of this, plus a 1/2" in top and bottom for the gas and another 1" in the top for catalyst loading.**

23 **Put a screen about 6" from the bottom, and make it slope downward towards the inlet pipe.The catalyst outlet is at the bottom of the unit through the inlet (t-section with cap).**

24 **Make an outer shell of 10" pipe with enough clearance to put caps on this pipe as well with the main reactor inside.**

25 **Interconnect the coolant pipes in every possible way, with a main outlet on both top and bottom manifolds.**

26 **Fill the coolant system with distilled water.**

27 **Make a sizable square radiator, with a steam-powered fan and return pump and a steam relief valve set for 100 atmospheres.** 2 hp should be enough for both.

28 **Load with 6 liters by volume of 100-mesh reduced iron or magnetite (Fe3O4).This unit should run about 350 °C (662 °F) and about 25 atmospheres.** Steam at 1300-1400 PSI.

29 **Begin building the final processing units.** A 3/8" venturi expanding to 6" and then capped will expand and cool the gases.

30 **Ensure that the gas/water mixture drops to room temp by running some of the coolant line through the regulator in the last step.**

31 **Run 3/4" to the filtering chamber.**

32 **Build the filtering chamber, which is a section of 6" pipe sideways with a 1.8 angstrom membrane to filter out water (out the bottom)and a 4.3 angstrom membrane to filter light gases out the top pipe.** The water is returned through a 500-psi one-way valve to the tank, the gases to a 5 gal. storage tank that's connected to the main reactor burners, and the fuel to a grounded, vented storage tank with a meter and pump.

33 **Build the relief system.** The pipe from the relief valve goes through a gas regulator with a 4mm nozzle and

then straight upward for 6 feet (1.8 m), and the top 6" is perforated with 1/4" holes.

34 **Run a small pilot light (1/8") from the main gas storage.** It should be kept lit while the machine is in operation. Happy motoring! This thing makes 1 gallon at a time - it will take 15 minutes for the reaction to complete.

Community Q&A

How can I make my own gasoline?

wikiHow Contributor

Corn or ethanol or mineral spirits? You just need a triple distiller, or an engine that doesn't mind some gunk build up. You need to be careful, but it can be done. You need the initial vat to be stainless material, like an iron/manganese blend.

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How long from start to finish, and where do I find these tools?

wikiHow Contributor

It takes about two days to get your first liter. By the time you're finish building this, you will be hooked. You will want to build one for your neighbor. Find the tools in your work shed, a friend's garage, or Home Depot. Get vice grips, too.

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Who gets a copy of the form?

Your answer... Reply

On **How to Start a Recycling Business**, a reader asks:

How much are the fees and license for recycling in Sacramento ca?

Your answer... Reply

On **How to Identify Hickory Trees**, a reader asks:

Do hickory trees grow in Kansas and what kind are they?

Your answer... Reply

Tips

- The help of a certified engineer or mechanic would be useful before trying to make gasoline. If no one is available, buy the EIT manual and teach yourself engineering.
- If more power is needed one solution is to re-spec the machine so that 10% more input (and thus 10% of syngas) is used to run a superheater for the steam.
- Don't forget to add 10% ethanol.
- It is recommend that the trash be shredded - a possible design for a continuous feed is to use the steam to run motors up front that run a grinder and a piston feed.
- Similar diversions of gases to run pyrolysis could be used, or an air compressor to run steam and air autothermal gasification.

Warnings

- Do not smoke or have any source sparks or flames when making or handling the gasoline.
- Touch a metal object before you handle the gasoline. Static electricity is dangerous and can cause explosions and fires.
- Ensure that everything is together tightly so no explosive liquids can leak out.

Things You'll Need

- [ ] Gasifier (309 stainless, flanged, ID, parts under pressure are Sch. 120)
- [ ] 1 24" x 30" "trashcan" (3" outlet in bottom with additional fitting for 6" pipe as a jacket)
- [ ] 2 6" x 12" pipe with (3) 1/2" taps in side 3" apart
- [ ] 1 9" x 12" pipe (2 caps, one with a 3" outlet tap in center and another 1/2" to the side)
- [ ] 1 9" in diameter 200 mesh screen
- [ ] 3 3" x 12" pipe
- [ ] 1 3" x 9" pipe
- [ ] 1 3" x 24" pipe
- [ ] 12 3" 90 degree bend
- [ ] 1 3" 4-way
- [ ] 2 3" Tee
- [ ] 1 6" cap
- [ ] 1 6" cap with
- [ ] 1 6" cap reducing to 3" OD
- [ ] 3 1/2" valve 600 psi/700 F (this is actually part of the water system)
- [ ] 1 9" x 12" with (2) 1/2" taps in the side
- [ ] 1 9" cap
- [ ] 1 9" cap with 1/2" tap
- [ ] 1 1/32" restrictor plate for 1/2" pipe
- [ ] 2 1/2" x 3"
- [ ] 2 1/2" x 8"
- [ ] F-T (Std steel, Sch. 80)
- [ ] 1 10" x 60"
- [ ] 1 8" x 59.5"
- [ ] 24 1/2" x 59"
- [ ] 193 1/2" tee
- [ ] 192 1/2" 90 degree
- [ ] 192 1/2" x 1"
- [ ] 2 1" x 4"
- [ ] 2 1" 90 degree
- [ ] 2 1" > 1/2" adapter
- [ ] 1 1/2" x 36"
- [ ] 1 1/2" x 24"
- [ ] 1 1/2" x 24"

- [ ] 1 1/2" 90 degree
- [ ] 2 Pressure gauge to 600
- [ ] 2 Temperature to 1000
- [ ] 2 1" 300 mesh screens
- [ ] 1 8" 100 mesh screen
- [ ] 1 100 kg 200m iron filings, Separation (Sch 40)
- [ ] 2 1/2" x 12"
- [ ] 4 1/2" x 6"
- [ ] 4 1/2" x 36"
- [ ] 5 1/2" 90 degree
- [ ] 1 1/2" x 2"
- [ ] 1 6" x 12"
- [ ] 1 6" by 6"
- [ ] 1 6" to 1/2" cone
- [ ] 1 3/8" venturi
- [ ] 1 4.7 angstrom filter
- [ ] 1 1.8 angstrom filter
- [ ] 1 10-gallon storage tank Gas system (309, sch. 40)
- [ ] 1 500 PSI relief valve 3"
- [ ] 1 100 psi relief valve 1"
- [ ] 1 6" x 12" with 3" and (2) 1/2" taps in the side and a 1/8" and 1" tap next to each other and 90 degrees from the other 3 taps.
- [ ] 2 6" caps
- [ ] 1 1" x 60"
- [ ] 1 1/8" x 60"
- [ ] 1 3" x 48"
- [ ] 3 1/2" x 12"
- [ ] 1 1/2" 4 way
- [ ] 50 1/2" 3-way
- [ ] 50 1/2" gas nozzles with a 1/8" aperture
- [ ] 8 1/2" 90 degree
- [ ] 4 1/2" caps
- [ ] (std)
- [ ] 2 1/2" (inlet and outlet) Gas regulator with 1.9mm venturi
- [ ] 2 1/2" x 24"
- [ ] 2 1/2" x 12"
- [ ] 4 1/2" 90 degree water system (309)
- [ ] 1 6" x 6"
- [ ] 2 6" caps with 1/2" taps
- [ ] 1 1/2" x 24"
- [ ] 1 1/2" x 12"
- [ ] 4 1/2" x 36"

- [ ] 1 3" x 6"
- [ ] 1 3" cap
- [ ] 1 3" cap with 1/2" tap
- [ ] 1 1/2" 500 psi check valve
- [ ] 1 1/2" x 6"
- [ ] 18 1/2" 90 degree
- [ ] 2 1/2" tee
- [ ] 1 1/2" x 60"
- [ ] 1 1/2" x 30" Catalyst maker (std)
- [ ] 1 6" x 36"
- [ ] 1 6" cap with 1/2" tap
- [ ] 1 6" cap with 1/2" tap and 2 1/4" taps
- [ ] 3 1/2" 90 degree
- [ ] 1 1/4" Temp gauge to 1000 F
- [ ] 1 1/4" Pressure gauge to 600 psi
- [ ] 6 1/2" tee
- [ ] 7 gas nozzles as per gas system
- [ ] other equipment

Sources and Citations

- http://en.wikipedia.org/wiki/Fischer-Tropsch_process
- http://www.fischer-tropsch.org/

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