

Reusable Earth-Friendly Firestone For Cooking Stuff

by [nepheron](#) on February 17, 2009

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Intro: Reusable Earth-Friendly Firestone For Cooking Stuff

Don't forget to rate this instructable if you liked it! *I have also entered it into a contest so don't forget to vote!*

This device is an extremely efficient, non messy, easy to make, and easy to store alcohol burner. It is EXTREMELY simple to make and requires very little in the way of supplies and skills. It could be used for decoration, cooking, camping, or whatever else you can think up.

I think it's Earth friendly because it uses very little fuel extremely efficiently and takes hardly any resources to make. The piece itself is even biodegradable.

Fire is involved and I cannot be held responsible for damage or injuries caused by making this. Be careful!

Remember: Don't forget to rate this if you liked it!

Here are 2 videos of the Firestone in action:

The water in this video was dyed blue so you can see it...



step 1: What You Need

You will need only these items to your Firestone:

- Sidewalk Chalk. I recommend you get the cheapest kind...cheep means that it is very light and porous (what we want!).
- Small Container. We need it when we fill the stone...I used a pop bottle cap and it works great.
- Small Saw. I used a sissy little coping saw... a hack saw would work too.
- 91 % Rubbing alcohol. Go to Wall*Mart or a pharmacy to get it. \$1.92 USD
- Sandpaper. I used 100 Grit. The grit isn't a big deal.. use whatever works for you.



step 2: Cutting The Chalk

Using your saw, cut a 1/2 inch thick wafer out of the chalk. My chalk had a label on it so I had to peel it off.

Make sure you look at all 3 pictures below (That's why I took them...)!



step 3: Processing The Piece

Smooth out the rough cut sides of the chalk wafer with sand paper. The result is surprisingly beautiful on its own...even without fire.

Make sure you look at both pictures.



step 4: Filling Your Firestone

Fill the small pop bottle cap or other container with 91% rubbing alcohol and place your stone in it. Your stone will only take a moment to fill and will look dark and wet when finished. you may need to refill the container with alcohol if it is absorbed before the Firestone is full.

Gently remove excess alcohol with a paper towel when you remove the stone from container. The stone should feel slightly cold and moist to the touch.

Be careful not to damage the stone when removing it from the alcohol. The chalk cannot dissolve in the alcohol but will become slightly weaker when saturated in it.



Related Instructables



Copper Fire Log Heater: Burns clean with alcohol! by nepheron



build a eco-friendly candle by your dog



Hobo hideable throw away stove by watermelon



How to make NonBurning Money (video) by kentchemistry.com



Worlds Best Pocket-Sized Fire Starter by Draxis



The Pocket bunsen burner by Think-Tank



Alcohol-Fueled Blowtorch by cowsayingmoo102



Non-Toxic Fire Breathing with Food for Fuel - 10 Foot High Fireballs by shoemaker

Comments

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shawtherobot says:
where do you get that cool torch you sed to light the firestone.

Oct 5, 2009. 11:28 AM [REPLY](#)



nepheron says:
Ace hardware for \$10.00

Oct 9, 2009. 10:36 AM [REPLY](#)

What makes them such a great deal is that they can be refilled with "MEGA 1" brand of fuel (unexpected design). Most high pressure butane for these torches is VERY expensive for just a little bit. "MEGA 1" Brand is only \$2.30 for a year worth of fuel. The torch I'm using is a Burns-o-matic and they are the only mini torch I've seen that works with "MEGA 1" fuel (most are incompatible with the refill-head).

Both the torch and MEGA fuel can be purchased at ACE hardware and/or True Value hardware



shawtherobot says:
Whoa thats not even that much for a cool torch like that. the only problem is ive never seen that store i probably dont live near you.also they wouldnt sell it to me im only 12.(i think ill get my dad to buy it.)

Oct 9, 2009. 2:27 PM [REPLY](#)



nepheron says:
If you live in the US then you will have an ACE hardware nearby. Just go to the nearest one with written permission from your dad, get your stuff, and have them call your dad to verify that it's ok.

Oct 9, 2009. 7:43 PM [REPLY](#)



strmrnr says:
Does the stone toughen up after multiple refills or get weaker and fall apart easier.

Apr 11, 2009. 7:45 PM [REPLY](#)



nepheron says:
it gets weaker and weaker until it crumbles when you handle it.

Apr 14, 2009. 9:09 AM [REPLY](#)



itsaidhi says:
what is the burn time?

Apr 8, 2009. 11:00 AM [REPLY](#)



nepheron says:
Several minutes. Pretty long lasting for something so small and so hot.

Apr 8, 2009. 4:14 PM [REPLY](#)



ANDY! says:
How much smoke?

Mar 28, 2009. 1:41 PM [REPLY](#)



nepheron says:
Almost none. The only way you could even tell that it makes smoke is to condense it onto something cold.

Apr 4, 2009. 10:08 AM [REPLY](#)



LaxLuvr says:

Doesn't burning alcohol give off toxins as a bi product of being lit on fire?

Feb 18, 2009. 8:12 AM [REPLY](#)



fritsie123 says:

No toxins, not at all. It is a very clean burning fuel.

Feb 18, 2009. 10:22 AM [REPLY](#)

The alcohol reacts with the oxygen from the air and reacts into carbondioxide and water.



bpfh says:

Ethanol will only release $\text{CO}_2 + \text{H}_2\text{O}$ when burned in a pure oxygen environment - which the atmosphere is not - the nitrogen in the can react in the process to produce nitrogen oxides (NOx) which are other air pollutants, amongst others...

Mar 1, 2009. 2:41 AM [REPLY](#)

It is still cleaner than burning any other fossil fuel though!!



Killin Idea says:

nitrogen oxides only occur in high temperature environments, this ignition and the flame shouldn't be hot enough to form them.

Mar 4, 2009. 3:52 PM [REPLY](#)



bpfh says:

Carbon monoxide, carbon dioxide and water :) but as ethanol is from renewable sources, it is carbon neutral - just don't burn it off in a closed space - the only clean combustion is H_2O^2 and this ain't it :)

Feb 28, 2009. 11:46 AM [REPLY](#)

If you use perfumed alcohol (scented ethanol used for some "decorative" ethanol fireplaces), you would also get whatever byproducts that the perfumes give off during combustion that could be carcinogenic.

All that said, it's still far cleaner than any other solid fuel survival stoves and if stored in a sealed 35mm film pot (beware very warm temperatures - the alcohol fumes could pop the top off the pot), it would last probably forever (or until all the alcohol has leaked out over time).

Remember to check and top up from time to time if needed.

At one point, you could find "beach key holders", small waterproof, floatable plastic tubes that screwed together and hung around your neck (like here: <http://www.toysplash.com/Product/MoneyHolder>) - fill this with chalk tablets and ethanol, screw together and pack. It should not leak as there is a positive waterproof seal (or provide a better seal than a film canister anyway), be more robust in a backpack and won't split or leak as easily if your backpack takes a bump or two...



nepheron says:

Good ideas! Those key floater things sound like a good idea! If I remember correctly though, they were awfully small. They would probably hold small chalk-board style chalk Firestones instead of the large sidewalk chalk ones...

Feb 28, 2009. 6:17 PM [REPLY](#)



bpfh says:

First of all the link should have read <http://www.toysplash.com/Product/MoneyHolder> - the extra) was a formatting quirk :)

Mar 1, 2009. 2:06 AM [REPLY](#)

Some of those things were about an inch in diameter, so you should be able to stuff large lumps of chalk in there, otherwise, yes, I did not think of that, but how about standard cheap blackboard chalk, soaked in ethanol then wrapped in cling-film (so then you could open the pot, remove 1 or 2 only without releasing too much alcohol vapor allowing you to use them over a few days without losing too much efficiency...



nepheron says:

With the little chalk board style chalk you could make a fire place with chalk logs... I'm liking the idea with the money holder. I will have to make a "fire in a bottle".

Mar 1, 2009. 7:12 AM [REPLY](#)

Thanks for the feedback!



nepheron says:

Thanks for the info! Hopefully that helps LaxLuvr.

Feb 18, 2009. 10:38 AM [REPLY](#)



LaxLuvr says:

In that case this is an amazing instructable! I give it 5 stars and I hope you check out my entry. This is perfect for camping. :-)


Feb 18, 2009. 6:02 PM [REPLY](#)





nepheron says:

Thanks! I like your idea with the 9 volt battery hack!

Feb 18, 2009. 6:07 PM [REPLY](#)


 **jonathan95123** says: Mar 3, 2009. 8:44 PM [REPLY](#)
how long does it last for you. i havent found the giant chalk sticks yet but i used the long skinny ones. mine only last for about a minute at most. im going to use it at my friends house to cook smores cause she doesnt have a fire pit :)

 **nepheron** says: Mar 4, 2009. 7:04 AM [REPLY](#)
A minute or two sounds about right. Use a larger piece of chalk if you want it to last longer :) .
S'mores? Sounds good to me! Tell me if it works good.
-Nepheron


 **muffin1** says: Feb 20, 2009. 3:16 PM [REPLY](#)
Could you write with it and then set that on fire? Be careful with your answer, we don't want to see fire graffiti =>


 **nepheron** says: Feb 20, 2009. 5:00 PM [REPLY](#)
Actually, that's is quite an ingenious idea! I'll have to try it!


 **dunnos** says: Feb 28, 2009. 1:10 AM [REPLY](#)
so, did it work?


 **CoffeeWoman** says: Feb 26, 2009. 9:04 AM [REPLY](#)
For hiking and such, perhaps you could put the chalk disks in a film canister - air and light tight... a baby food jar might work, too...


 **nepheron** says: Feb 26, 2009. 9:30 AM [REPLY](#)
Film canister? Good idea! I never even thought of that...


 **arefiq** says: Feb 25, 2009. 10:36 PM [REPLY](#)
great. i can use this for camping and other related things.(very useful)

 **Cew27** says: Feb 25, 2009. 10:00 AM [REPLY](#)
ok dont suppose you could help me source some chalk from the uk for this? maybe even larger altoids size ones?

 **nepheron** says: Feb 25, 2009. 10:24 AM [REPLY](#)
Don't you have sidewalk chalk for children in the UK? That's all I used...
Here is a link for you: <http://www.amazon.co.uk/SIDEWALK-CHALK-ASSORTED-GIANT-CHALKS/dp/B000XQ4UZ2>
That's an Amazon sale... I will look for more.
Try Wal-Mart ?

 **Cew27** says: Feb 24, 2009. 10:06 AM [REPLY](#)
good instructables, will definitely use this as light for camping. however how long does it last and why not supersize it altoids tin style? then it would have a lid and be more portable

 **nepheron** says: Feb 24, 2009. 12:03 PM [REPLY](#)
altoid tins are not air tight... keeping it inside a tin like that is a great idea but you will need to keep the firestone inside something airtight (if it's not airtight the alcohol will evaporate). perhaps put the firestone inside a bag and then inside the altoids tin?

 **Cew27** says: Feb 24, 2009. 12:09 PM [REPLY](#)
how are bags airtight though? you could always add a little oneway valve to the tin and suck the air out .
also what perishes when in contact with air? chalk doesn't, does it? i should hope not or the white cliffs of dover will be collapsing any day now
hah



nopheron says:

Ahaha! Don't worry about your chalk cliffs now. They've been around for awhile. It's not the chalk that perishes. It's the alcohol absorbed into it. alcohol will evaporate if left in the open air.

Feb 24, 2009. 3:17 PM [REPLY](#)



myrwen says:

I think this idea is great, I just stumbled upon this site tonight and I keep finding more great ideas! Excellent, this will be added to my camping gear! The chalk can be kept in an old container for earplugs, and the alcohol in a small nalgene bottle. Great, thanks!

Feb 21, 2009. 7:34 PM [REPLY](#)



nopheron says:

Thanks! Good luck camping!

Feb 22, 2009. 9:59 AM [REPLY](#)



orangecrush says:

How did you put it out?

Feb 21, 2009. 10:51 AM [REPLY](#)



nopheron says:

Blow it out like a candle. You need to blow really hard though...it does not go out very easy.

Feb 21, 2009. 1:06 PM [REPLY](#)



steed1172 says:

this make me... want to...want to... want to buy LOADS of chalk

Feb 20, 2009. 7:48 PM [REPLY](#)



nopheron says:

Me too! You could make a whole fireplace with chalk logs!

Feb 21, 2009. 8:24 AM [REPLY](#)



xjesusx814 says:

what have you tried for storing this? how long have you found it stores for?

Feb 20, 2009. 10:18 PM [REPLY](#)



nopheron says:

To store it, just put it in a plastic bag. If the bag is air tight it will last indefinitely.

Feb 21, 2009. 8:19 AM [REPLY](#)



IdahoDavid says:

A couple of suggestions: Try the aluminum cup from a tea light candle for your container. Forego rubbing alcohol and use denatured alcohol from the paint section of the hardware store. It has no water in it and will burn cleaner and hotter.

Feb 18, 2009. 4:16 PM [REPLY](#)



nopheron says:

I've heard of using denatured alcohol. Next time I go to the store I will look into it. I use rubbing alcohol because it is more widely available.

Feb 18, 2009. 4:32 PM [REPLY](#)



pbawesome says:

i can't try this yet but, how long does the fire last, if you rubbed it on jeans, would it break up or soak alcohol into them, i want to know this, because me and friends having camp out soon, i wanna bring this, it looks so cool, i think you might win

Feb 20, 2009. 12:46 PM [REPLY](#)



nopheron says:

Thanks! If you take this camping you will need to put it in a plastic bag that won't leak air (Like a ziplock bag or something) and put the bag in a hard case like an Altoids tin so the Firestone inside will not get crushed.
Good luck!

Feb 20, 2009. 2:04 PM [REPLY](#)



pbawesome says:
im buying some sidewalk chalk, tonight, when i go outside

Feb 20, 2009. 2:24 PM [REPLY](#)



NamasteNick says:
Nice! do you cook with it? You could do a cool follow up on an oven that runs on these!

Feb 18, 2009. 9:58 PM [REPLY](#)



nepheron says:
(removed by author or community request)

Feb 19, 2009. 6:46 AM

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