

How to Make Whistle Fuel

CAUTION!!

Working with pyrotechnic devices is a very rewarding endeavor that can become a lifetime passion. To ensure continued enjoyment of this hobby, please follow appropriate safety guidelines. Work in an open area outdoors, keep all pyrotechnic mixtures in closed containers, limit any compositions to only the amount needed for a particular item, store finished items in an appropriate day box or magazine, be sure to wear appropriate non-synthetic clothing, wear eye protection and keep a source of water nearby. FireSmith cannot be held responsible for any accidents or incidents resulting from the construction and use of any pyrotechnic devices. It is highly recommended to check and adhere to all local, state and federal regulations. Please consider joining the PGI and any pyro clubs in your area so that you may construct pyrotechnic items in a safe and legal environment. Additional information can be found at www.pgi.org.



Whistle fuel is a very powerful pyrotechnic composition. It is also quite sensitive to shock and friction. As such, start with small batches and work outdoors when producing this fuel. A slightly modified version of a fuel developed by Steve LaDuke, the whistle fuel described in this tutorial is one of my favorites. It produces a nice “raspy” sound, has good power, is easy to work with and is very reliable.

Formula:

Potassium Perchlorate 64
Potassium Benzoate 32
Copper Oxychloride 2
Petroleum Jelly 5

Additional Materials:

80-150 Mesh Ti Sponge or Flake 5-10%
20-40 Mesh Screen
Lacquer Thinner
Mason Jar
1 Gallon Ziplock Baggie
Kraft Paper
Latex or Nitrile Gloves



Step 1

It is important that each component be milled to a very fine “talcum powder” consistency. Failure to do so will result in a fuel that will not work. Should you have chunky chemicals, run them individually through a ball mill or coffee grinder. Be sure to clean the mill or grinder before switching chemicals. Absolutely do not ball mill or grind the above chemicals together. An explosion will result.



Step 2

Weigh out appropriate amounts of each chemical (except the petroleum jelly) and dump them together into a Ziplock bag



Step 3

Close, then lightly tumble the bag to produce a very basic mixture



Step 4

Dissolve 5 parts petroleum jelly with lacquer thinner. Approximately 1/3 cup of lacquer thinner for every 500 grams of whistle fuel seems to be about right. To fully integrate the mixture, set the mason jar with the lacquer thinner and petroleum jelly solution in a pot of hot water (do this outdoors and away from any heat source or open flame). This will fully melt the petroleum jelly to create a homogenous solution.



Step 5
Dump the petroleum jelly mixture into the bag with the whistle fuel.



Step 6
Knead this mixture for a couple minutes. With the introduction of the petroleum jelly, the mixture is much less sensitive.



Step 7
Empty the baggie onto your screen.



Step 8

Gently pass this mixture through the screen onto a sheet of paper



Step 9

Repeat the screening procedure 6 times to fully mix the fuel and integrate the petroleum jelly.



Step 10

Set the whistle fuel out to dry on a sheet of paper or cardboard. Keep it out of direct sunlight. The fuel is ready to use when it no longer smells like solvent.



Step 11

Once the fuel is dry, measure out 25% of the fuel and place it into a small plastic or paper container. Add 5-10% titanium sponge or flake to this container (80-150 mesh produces a nice white tail).



Step 12

Tumble the mixture for about one minute to fully integrate the titanium with the whistle fuel.