

## JB's IPA "Quick" Wet Nitrocellulose (NC) Fines Process

JB developed this process to create NC Fines. It substitutes manual grinding with mixing, heating, cooling ingredients and some patience and produces a nice volume of NC when complete. The author of this document accepts no liability for any damage to persons or property because of this lab. Perform at your own risk using common sense with a focus on safety. Note this is a general process that works but it isn't an exact science. I've done this 5-6 times with slightly different results, and it all burns. 😊

### Ingredients

1. 16 grams of Smokeless FAST Pistol Powder
  - a. (I use TiteGroup, I think Julio used Unique but stay away from ball or cylindrical powders like IMR4350 as it doesn't dissolve very well)
2. 120 ml Acetone
3. 80 ml denatured alcohol or methanol (HEAT Gas Additive)
4. 50-60 ml of 91% Isopropyl Alcohol IPA (91% is critical!)
5. Hot Tap water. Use a hot plate if you have one.

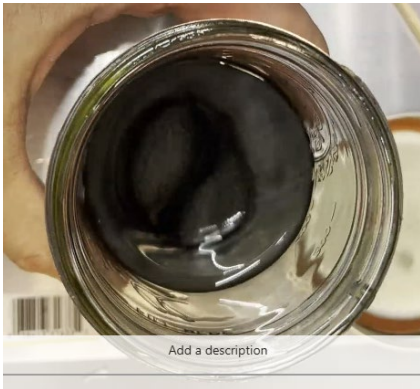
### Tools:

1. Pint jar with lid-(Mason or Ball Canning jar recommended or 500 ml beaker with a stopper.
2. Hot plate (Easiest but not required)
3. Glass stirring rod or plastic chopstick
4. Graduated cylinder
5. Small beaker
6. Bowl large enough to hold the pint jar in a water bath
7. Hot Plate or Griddle to keep water hot is a plus
8. Thermometer is nice to have but optional.
9. Plain coffee filter
10. Plastic funnel
11. Glass flask or quart Jar that will support the filter
12. Desiccator or sealable airtight container
13. Pyrex-type bowl that will cover a coffee filter
14. Paper plate
15. Saran Wrap or plastic plate covers with elastic bands
16. Desiccant Beads (Amazon)



## Process

- 1) Set up your water bath on your hot plate and warm the empty pint jar in the water bath
- 2) Add Acetone, add denatured alcohol to the jar **FIRST**, and allow the water bath to warm to about 65 degrees. The Acetone/Denatured alcohol will start to bubble but don't let it boil.
- 3) Slowly but steadily add the smokeless powder to the jar and stir vigorously to keep the powder from clumping up. The goal here is to dissolve the powder into a liquid, "lacquer" solution.
- 4) Put the sealed jar into the 65-degree Celsius water bath on your hot plate.
- 5) Periodically remove the jar and shake it vigorously to help eliminate any clumps in the jar.
  - a) Monitor the water bath temp (Around 60-65 degrees Celsius) so the solution doesn't boil. Continue until all clumps are liquified.
  - b) **You can open the jar periodically to stir if the clumping is excessive; just use extreme care to wear your safety glasses, gloves, and a mask when opening the jar as pressure will build up in the sealed jar like opening a soda pop and the fumes coming out of the jar are not nice. Further, do this quickly so the solution doesn't start to evaporate.**
  - c) When fully dissolved, remove from the water bath and **carefully** open the jar. Following the above precautions. The solution will look something like this or it may have a green vs grey tint depending upon the powder used:

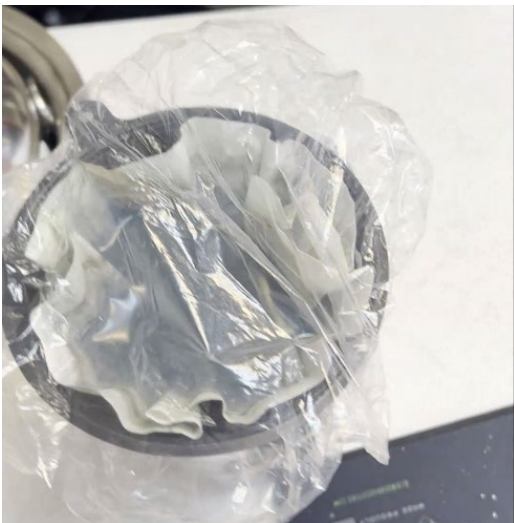


- d)
- 6) Using your eye dropper, small beaker, graduated cylinder, or other small container and gradually add small amounts (5-10mls at a time) of the 91% IPA, stir gently, and reseal to minimize evaporation.
  - a) Continue to add small amounts of IPA until you see the solution turn opaque, milky, or cloudy and not stringy. This will be somewhere between 45 and 65 mls but less is best.
  - b) As the NC starts to saturate with water, you will notice a distinct color change. When it becomes cloudy, that is when the dissolved NC has absorbed water to the point that it becomes insoluble in the acetone/denatured alcohol.
- 7) Once the solution is completely dissolved it will look grainy or sandy, and a bit like paint with multi-color streaks running through it,



8)

- 9) Now put the jar in the refrigerator for several hours to cool.
- 10) Fold your coffee filter into a cone shape and put your coffee filter in your funnel.
- 11) Place your filter in the top of your flask or other container (quart jar) that will support the weight of your funnel when full of liquid.
- 12) Pour the NC solution into the filter and allow the liquid to drain through (overnight). Loosely cover the funnel with saran wrap or a plastic plate cover with elastic to slow the evaporation process.



- 13)
- 14) Once the drainage has been complete, Remove the filter from the funnel and spread it out onto a paper plate. The material may appear be jelly-like
  - a) Then cover it with a bowl (pyrex bowl like a dome) and slip a credit card, hotel key etc. under one edge of the bowl
    - i) The idea here is to allow the acetone/alcohol solvent to evaporate slowly which it should do within a couple of hours. You'll know when this is complete when you can't smell the alcohol/acetone any longer.



- b)
- 15) Transfer the plate and filter (still wet material) into a Desiccator, Tupperware, Folgers coffee container with lid that can be sealed with desiccant beads to dry. Cover with Saran Wrap or plastic plate covers to seal the containers. You want the evaporation process to be slow so that the NC Esters do not evaporate with the Alcohol and Acetone.

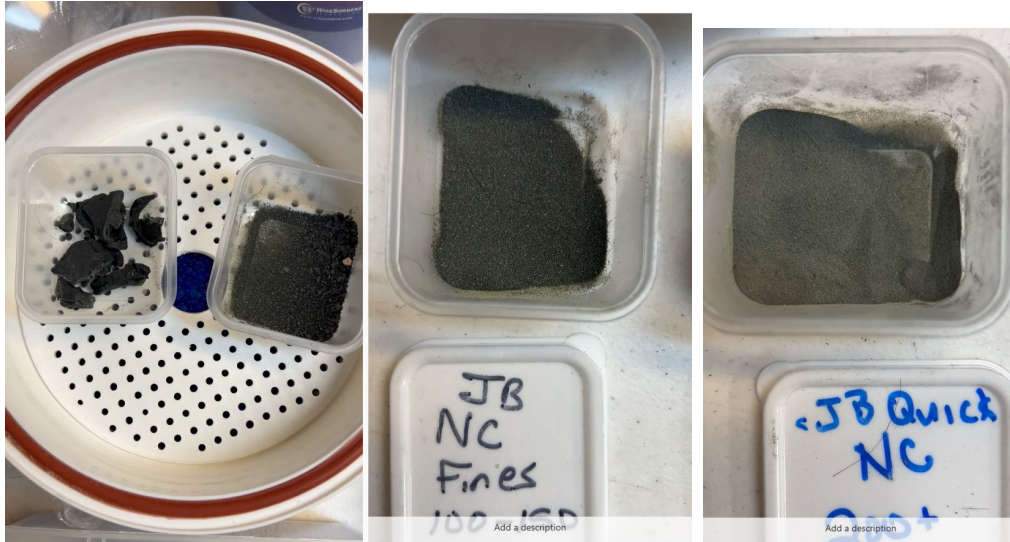


- 16)
- 17) Dessicator is top left. I didn't find that it did any better job of drying than my other containers.

18) The drying process will take up to 4-7 days, depending upon the humidity and temperature; resist the temptation to rush this process!

a) During the drying process, break down the clumps of material into smaller pieces. This will aid in drying as well as help reduce the big chunks into smaller particles using a plastic credit card or something similar. Ultimately, you want the fines to be as small as possible. 150-200 mesh is ideal.

b)



c)

d) This is NOT an exact science. When ignited, you are looking for a very fast burn with little sparks in the flame!



e)

When complete, each batch will make enough NC to make EPH2X compound to make a lot of primers!