At Zygote, artists can etch copper using Ferric Chloride (denoted by \textcolor{orange}{ORANGE}) and/or zinc, aluminum and steel using Copper Sulfate (denoted by \textcolor{blue}{BLUE}). Both of these etchants have replaced Dutch Mordant and Nitric Acid. While etching times* should always be tested, and can vary, please note that Ferric Chloride etches at a slower rate than Dutch Mordant. Copper Sulfate tends to etch at a similar rate to 1 to 12 Nitric.

*These times are not always guaranteed, but are provided to offer users a good starting point.

Both etchants have water tanks next to them, please, always dip your plates into the water before rinsing in the sink. This “stop” will keep too much acid from getting into Zygote’s older plumbing system.

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FOR MORE DETAILED INFORMATION ABOUT ETCHING, PLEASE SEE THE ETCHANT RACK CARD!

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At Zygote, we have replaced the Asphaltum regularly used in etching with BIG Ground. To apply BIG, roll out a lean slab on the glass pallet of the grounding station. For smaller plates, please bake the ground in the convection oven for 8 minutes. For plates larger than the convection oven, you can use the traditional hotplate.

CLEANING UP BIG GROUND

1. Scrap up excess BIG and either save for personal use or throw away.
2. Loosen Remaining BIG with oil, wipe with clean rag and make sure all ground is removed.
3. Wash down brayer and knife with soap and water.
4. Dry brayer and roll in cornstarch to remove any remaining moisture.
Zygote is a green shop. Use of Mineral Sprits, Acetone and other petroleum-based solvents is prohibited for the health and safety of all users.

**TO CLEAN OIL BASED INK**

1. Scrape up excess ink with pallet knife and wipe onto phone book pages.
2. Squirt a small amount of oil (quarter-sized to start) onto glass and use pallet knife to spread and loosen remaining ink.
3. Use a rag from the “gently used rag” bin to wipe remaining ink and oil.
4. Spray Vinegar and Water solution over surface and wipe up with a new rag.
5. If needed, spray surface with Water and Soap solution and wipe up with a new rag.

**CLEANING BRAYERS**

2. Squirt a small amount of oil onto glass and roll brayer in it to spread and loosen remaining ink.
3. Use a rag from the “gently used rag” bin to wipe up remaining ink and oil.
4. Wash off oil with soap and water solution
5. Dry brayer and roll in cornstarch to remove any remaining moisture.

All surfaces should all be wiped down completely with a clean rag and the soap and water solution after all ink and other messes have been cleaned. NO INK should be left on any surface, including the ink guns, ink tubes, press bed, blankets, or inking table.

**LITHOGRAPHY**

Zygote offers ball-ground plate and Emerald Photo Lithography. Plate Litho can be run using etching presses and does not require a tympan. We do not use Nitric Acid, Lithotine or rosin for Litho at Zygote Press, instead, we clean plates with either Soy Solve or Estisol.

**BALL GROUND [AVAILABLE FOR SALE AT ZYGOTE]**

Ball ground plates work very much like stones. Zygote provides a Gum Arabic/Lemon juice-based Tapem at various PH levels, stored in the refrigerator. Cheesecloth, sponges and bowls are located in the Lithography cabinet.
1 Prepare your transparency. (For digital files, print out to scale onto cheap computer paper and use canola oil to make it transparent. The same method can be used with opaque markers on cheap paper)

2 Place transparency onto the glass of the light table. (Transparency should be “wrong reading”) cover with a piece of mylar or acetate cut slightly larger than the original.

3 Put plate green side down over transparency on light table, flush to the glass.

4 Place the string in a U shape over the plate.

5 Pull lid down and lock. Turn on vacuum switch.

6 Turn exposure knob past the 4-minute mark and set your own stopwatch for 2 minutes. (Exposure time can vary with the type of image you are using, we recommend test shoots for best results.)

7 Leave the room while exposing due to the presence of UV light.

8 Once exposure is done, turn off vacuum and remove plate.

9 There are several trays next to the screen print washout area, place one on the metal table located near the spray-out booth.

10 Zygote provides developer made from Lye, Soda Ash and water. Use gloves and the designated sponge to develop your plate.

11 Rinse for 1 minute in clean, cold water in the screen spray-out booth.

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