

New Grounds: The Manual for Non-Toxic Etching

Etching is a printmaking technique that involves creating an image on a metal plate by chemically etching away the unprotected areas. Traditionally, etching has been associated with the use of hazardous chemicals such as nitric acid and ferric chloride. However, in recent years, non-toxic alternatives to these chemicals have emerged, making it possible to practice etching in a safe and environmentally friendly way.



New Grounds: The Manual for Non-Toxic Etching

by Regina Held

★★★★☆ 4.8 out of 5

Language : English
File size : 2149 KB
Text-to-Speech : Enabled
Screen Reader : Supported
Enhanced typesetting: Enabled
Print length : 149 pages
Lending : Enabled



This manual provides a comprehensive guide to non-toxic etching techniques using readily available materials. It is suitable for both beginners and advanced artists who are looking to explore the creative possibilities of etching without compromising their health or the environment.

Chapter 1: Materials and Equipment

The first step in non-toxic etching is to gather the necessary materials and equipment. The following list provides an overview of what you will need:

- **Metal plates:** Copper or zinc plates are the most commonly used for etching. They can be purchased from art supply stores or online retailers.
- **Ground:** A ground is a protective coating that is applied to the metal plate before etching. It prevents the acid from attacking the areas that are not intended to be etched. There are several different types of grounds available, including asphaltum, hard ground, and soft ground.
- **Etching solution:** The etching solution is the chemical that will dissolve the unprotected areas of the metal plate. There are several different non-toxic etching solutions available, including hydrogen peroxide, ferric ammonium oxalate, and sodium persulfate.
- **Tools:** You will need a variety of tools for etching, including a stylus, etching needles, and a burnisher. These tools can be purchased from art supply stores or online retailers.

Chapter 2: Preparing the Plate

Once you have gathered your materials and equipment, you can begin preparing the metal plate for etching. The first step is to clean the plate with soap and water. Once the plate is clean, you will need to apply a ground to it. The type of ground you use will depend on the etching technique you are using.

Asphaltum ground: Asphaltum ground is a traditional etching ground made from asphaltum, beeswax, and turpentine. It is applied to the metal

plate with a brush or a roller. Once the ground has been applied, it must be heated to harden it.

Hard ground: Hard ground is a type of etching ground that is made from a mixture of beeswax, rosin, and pitch. It is applied to the metal plate with a hot plate or a heat gun. Hard ground is more resistant to acid than asphaltum ground, so it can be used for longer etching times.

Soft ground: Soft ground is a type of etching ground that is made from a mixture of beeswax and tallow. It is applied to the metal plate with a brush or a roller. Soft ground is less resistant to acid than asphaltum ground or hard ground, so it can be used for shorter etching times.

Chapter 3: Drawing on the Ground

Once the ground has been applied to the metal plate, you can begin drawing on it with a stylus or an etching needle. The stylus or needle will scratch through the ground, exposing the metal beneath. The areas that are exposed to the metal will be etched away by the acid.

When drawing on the ground, it is important to be careful not to scratch too deeply. If you scratch too deeply, the acid will etch too far into the metal and the lines will be too thick. It is also important to avoid touching the metal with your fingers, as this can transfer oils to the plate and prevent the acid from etching properly.

Chapter 4: Etching the Plate

Once you have finished drawing on the ground, you can begin etching the plate. The etching process involves immersing the plate in an etching solution. The etching solution will dissolve the unprotected areas of the

metal plate, creating an image. The length of time that the plate is immersed in the etching solution will determine the depth of the etch.

There are several different types of etching solutions available, each with its own advantages and disadvantages. The most common type of etching solution is ferric chloride. Ferric chloride is relatively inexpensive and easy to use, but it can be harmful to the environment. Other types of etching solutions include hydrogen peroxide, ferric ammonium oxalate, and sodium persulfate. These solutions are more environmentally friendly than ferric chloride, but they can be more expensive and more difficult to use.

Chapter 5: Stopping the Etching Process

Once you have etched the plate for the desired amount of time, you can stop the etching process by removing the plate from the etching solution. The plate should then be rinsed with water to remove any remaining acid.

Once the plate has been rinsed, it can be dried with a hair dryer or a heat gun. The plate is now ready to be printed.

Chapter 6: Printing the Plate

To print the plate, you will need a printing press and some ink. The ink is applied to the plate with a brayer. The plate is then placed on the printing press and a piece of paper is placed on top of the plate. The paper is then pressed into the plate with the printing press.

The pressure of the printing press will transfer the ink from the plate to the paper. The resulting print will be a mirror image of the image that was etched into the plate.

Non-toxic etching is a versatile and rewarding printmaking technique that can be used to create a wide variety of images. By following the instructions in this manual, you can learn how to etch your own plates and create your own unique prints.

I hope that this manual has been helpful. If you have any questions, please feel free to contact me.



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