I've done a few experiments with Elian Mikkola's Eko Reversal process, but have been largely scared off by the intensity of working with Eko-Bleach. Elian warns:

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*Note: Always use gloves, and protective clothing, mask (preferably a respirator) and safety glasses when working with eco reversal. Combining hydrogen peroxide and vinegar creates a solution that can harm the skin, eyes, nose, throat, and lungs, if not protected properly. It's also extremely important to find out where is your closest waste management centre that accepts household chemicals. It is not recommended to keep your used Eco-Bleach around for more than a month. Make sure to label your eco-chemistry before taking it to your waste management centre.*
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I wanted to know more about the solution that was created, and what its properties were. So I broke out my old chemistry textbook, and looked to balance some equations. Here is what I learned.

When you combine acetic acid and hydrogen peroxide a chemical reaction occurs that produces peracetic acid and a small amount of water:

$C_2H_4O_2 + H_2O_2 \rightarrow C_2H_4O_3 + H_2O$

In this equation, the amount of peracetic acid we create is related to (and bound by) the amount of acetic acid in the solution.

Here's a slightly modified version of Elian's recipe for 3L of Eko-Bleach that uses vinegar in place of lemon juice so we have a more controlled and known reaction:

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**Vinegar Eko-Bleach (Makes 3L)**

2.1L $H_2O$ (Water)
660mL 35% $H_2O_2$ (Hydrogen Peroxide)
240mL White Vinegar (5% acetic acid)

PPE: Gloves, Mask/Respirator, Goggles/Glasses

Combine ingredients in order.
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The chemical reaction itself takes place with the $H_2O_2$ (hydrogen peroxide) and $C_2H_4O_2$ (acetic acid).

231g $H_2O_2$ (Hydrogen Peroxide)
12g $C_2H_4O_2$ (Acetic Acid)

Converting these weights to moles we get:
0.00679mols $H_2O_2$

0.0002mols $C_2H_4O_2$

Therefore, the chemical reaction should yield .0002 mols peracetic acid (~75g/mol = 15mg) + and .0002 mols of water (~18g/mol = 3.6mg), leaving behind 212.4mg of hydrogen peroxide.

The resultant 3L mixture has the following properties:

~0.5% Peracetic Acid
~7.5% Hydrogen Peroxide.

**Neutralization and Disposal**

To neutralize the .0002mols of peracetic acid, we need to add .0002 mols Sodium Bicarbonate (8.4g/mol = 16.8mg or ~1 heaping tbsp).

To neutralize the hydrogen peroxide, we will further dilute the solution to 3% by adding 7L of water to the solution before disposal. You can also add 1 tbsp baker's yeast to the solution, which will act as a catalyst for the decomposition process.*

***Note**: this causes an exothermic reaction (i.e. the solution will fizz and heat up), and it is recommended you do this step outside.

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The recipe + disposal instructions can be downloaded here.