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DIY Manual

# Liquid Barn DIY Manual

This manual is designed to help beginners understand the concepts of creating their own eLiquid.

Begin mixing only after fully understanding the concepts and safety precautions of mixing your own eLiquid.

Doing these simple calculations prior to mixing will not only help you make more accurate recipes, but also give you more control over the contents of your eLiquid. You can adjust, compensate, and recreate any recipe.

Protection must always be worn when handling nicotine, regardless of dilution.

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For more information please visit  
**[www.liquidbarn.com](http://www.liquidbarn.com)**

# Introduction to eLiquid

**eLiquid** - The nicotine or non-nicotine solution used in electronic cigarettes. This solution predominately consists of two compounds:

## Propylene Glycol (PG)

Most commonly used as a base carrier for nicotine and flavor solutions for electronic cigarettes.

## Vegetable Glycerin (VG)

A natural alternative to Propylene Glycol and is sometimes used as the majority base in eLiquid.

**PG** and **VG** also serve as the base liquid for Blended Nicotine and Flavor Concentrates.

When mixing your eLiquid you will want to know the overall ratio between your **PG** and **VG**. The ratio between the two bases can have a profound effect on your final eLiquid.

When deciding on the **PG / VG** ratio of your eLiquid, you will want to weigh out the pros and cons of each base liquid.

Think of your batch size as a whole, or 100%, and your **PG / VG** percentages are what will make up this 100%.

Since your nicotine and flavoring are also composed of **PG** and/or **VG**, your nicotine and flavoring will be accounted for in either your **PG Ratio** or **VG Ratio** depending on the dominant base of that liquid.

# Base Ratios

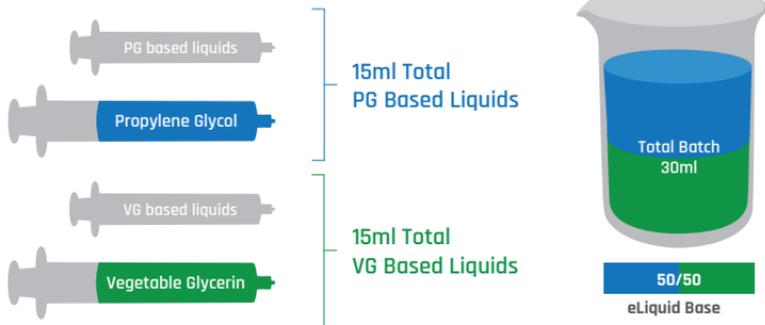
If you don't already have a preferred **PG** to **VG** ratio, start off using 50/50

## Higher PG Ratio

Stronger throat-hit  
Easier to work with  
Thinner eLiquid

## Higher VG Ratio

Higher vapor production  
Smoother hit  
Thicker eLiquid



\* Do not use PG if you have any PG allergens.

# Flavoring



Flavor concentrates are made up of multiple components. Typically, flavors will consist of a dominant **PG** or **VG** base.

Your Flavor Concentrates will be accounted for in either your **PG** or **VG** ratio depending on what base it is.

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1

## Determine your desired Flavor Strength



**Flavor Strength** is the strength percentage you want the flavor in your finished eLiquid to be. Your percentage will vary based on the flavor and your personal preference. You will perfect this through trial and error.

**2**

Calculate the amount of flavor extract needed to add to your batch.

Simply multiply your desired percentage of flavoring by your batch size to find out the amount of flavor concentrate needed.

$$\begin{array}{ccc} \text{Flavor Strength} & \times & \text{Batch Size} \\ \hline & & \text{needed amount of Flavor Extract} \\ \text{Formula} & = & \text{Answer} \end{array}$$

Use the formula for each additional flavor extract. It is recommended to keep the total percentage of all your flavors under 25%.

Keep in mind the more flavoring you add, the more complex your eLiquid becomes. We recommend starting off with single flavor recipes to familiarize yourself with different flavor profiles. You can then move on to more complex flavor recipes.

# Example

Total Batch Size

30ml

Flavor Strength

Medium  
10% Strength

PG/VG Ratio

PG	50%
VG	50%

For this example we will be making a **30ml batch** of eLiquid using a **Flavor Strength of 10%**. We will assume our Flavor concentrate is **PG Based**.

Flavor Strength = 10%



Batch Size = 30ml

0.10  
(10%)



30



This means we will need **3ml** of our **Flavor Concentrate** to reach a Flavor Strength of **10%** in a **30ml** batch of eLiquid.

Since the **3ml of Flavoring** is being counted towards our total PG ratio, we will now only need to use **12ml of Propylene Glycol** to maintain our 50/50 ratio.

# Recap (No Nicotine)

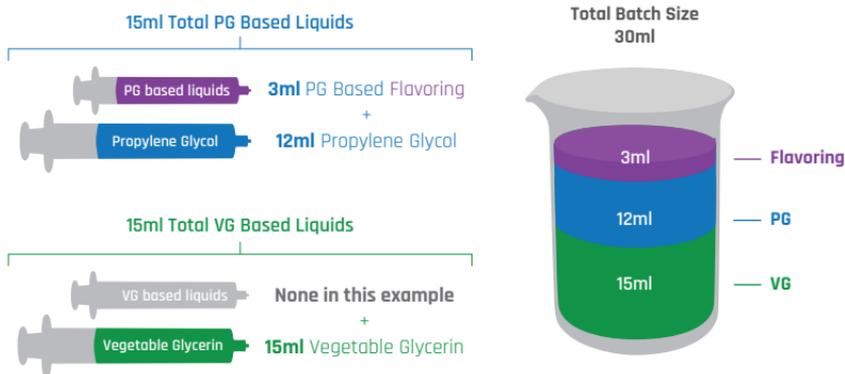
Our **30ml batch** will consist of **50% PG** and **50% VG**.  
**15ml of PG Based Liquids** and **15ml of VG Based Liquids**.

We will need to mix together:

**Flavor Concentrate:** 3ml

**Propylene Glycol:** 12ml

**Vegetable Glycerin:** 15ml



# Nicotine Solution



Nicotine is not required or recommended in your eLiquid. Do not use nicotine if you do not require it. Nicotine is extremely addictive, dangerous, and should be handled only after reading all warning labels on bottles. You should never handle highly concentrated nicotine, especially in its pure form.

Nicotine strengths are commonly displayed as **milligrams per milliliter or (mg/ml)** or as **percent by weight (%)**

Nicotine is available in a **PG** or **VG** Base.

Nicotine Solution is also referred to as Base Nicotine. Your Nicotine Solution will need to be diluted down to a vapable strength in your final eLiquid batch.

You will need to be able to identify and determine the following before mixing your eLiquid.

Target Strength

Base Strength

Batch Size

**Target Strength** is the strength you want your final eLiquid to be.

**Base Strength** is the strength of your Nicotine Solution you will be diluting.

**Batch Size** refers to the total amount of eLiquid you will be making.

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3

Determine your desired  
**Target Strength**

**3MG**

Low

**6MG**

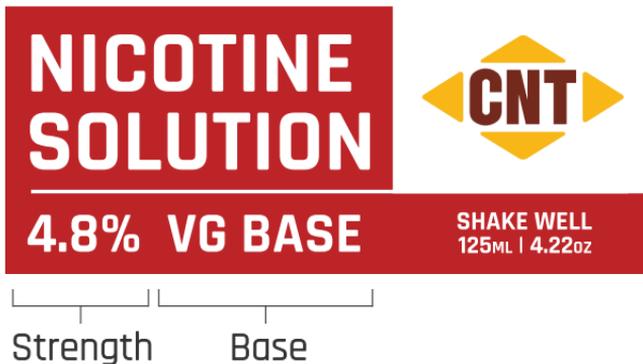
Medium

**12MG**

High

4

Identify the **Strength** and **Base** of your Nicotine Solution



The above example shows a Nicotine Solution with a strength of **48mg/ml (4.8%)** in a **VG Base**.

Your nicotine will be accounted for in either your **PG** or **VG** ratio depending on what base your nicotine solution is.



# Example

Total Batch Size

30ml

Flavor Strength

Medium  
10% Strength

PG/VG Ratio

PG	50%
VG	50%

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Base Nicotine

48mg Strength  
VG Based

Target Nicotine

6mg  
Strength

For this example we will be making a **30ml batch** of eLiquid with **6mg strength Nicotine** using a 48mg VG based Nicotine Solution.

Our **30ml batch** will consist of a **50% PG** and **50% VG ratio**.  
**15ml of PG Based Liquids** and **15ml of VG Based Liquids**.

## Example Continued

We will need to calculate the amount of our **Nicotine Solution** needed to reach our **Target Nicotine Strength**.

$$\frac{\text{Target Strength} = 6}{\text{Base Strength} = 48} \times \text{Batch Size} = 30$$

$$\frac{6}{48} \times 30 = 3.75 \text{ ml}$$


This means, to reach a target strength of **6mg** in a **30ml** batch of eLiquid, we must use **3.75 ml** of our **48mg Nicotine Solution**.

# Recap (with Nicotine)

Our **30ml batch** will consist of **50% PG** and **50% VG**.

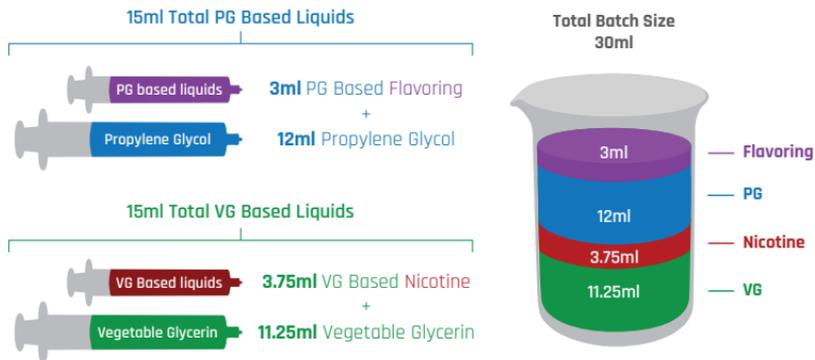
We will need to mix together:

**Flavor Concentrate:** 3ml

**Propylene Glycol:** 12ml

**Nicotine Solution:** 3.75ml

**Vegetable Glycerin:** 11.25ml



For more information on DIY, mixing by weight, steeping, etc.

**Please visit our website [www.liquidbarn.com](http://www.liquidbarn.com)**



eLiquid Kit



Flavor Kit



Labware Kit

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