

# PZI Insulin Information

## Why use PZI?

For a few cats, human insulin does not successfully replace the cat's own insulin, so for them, the source of the insulin is very important to regulation. Bovine (beef) insulin is most similar in molecular structure to feline insulin, and it is thought for this reason, to be most effective for these cats.

In addition, with 2 injections per day, the many cats who do respond to the human forms of insulin, experience better control, consistency and flatter curves with PZI. In some cases, PZI offers longer durations than human insulin (up to 24 hours) allowing one injection per day.

## What do the strength numbers (U40, U100) mean?

The vials of what we call insulin actually contain a minute amount of crystalline insulin, which is suspended in a fluid (called diluent) that is mostly water. Pure, crystalline insulin is measured by weight, in international units (iU).

When combined with the other ingredients, insulin strength is expressed as U100, U50, and U40, meaning that there are 100, 50 or 40 international units of insulin per milliliter (ml) of diluent (the fluid). A ml of U40 contains 40iU of crystalline insulin, and therefore a 10ml vial will contain 400iU. The same vial of U100 strength, contains 1000iU of insulin, or 2.5 times as much. ***Think of U100 as being more concentrated than U40.***

***Syringes are designed to be used with a specific strength of insulin.*** U40 syringes contain a full cc (equivalent to 1ml) and have 40 unit marks. Measuring U40 insulin to the one unit mark in a U40 syringe, will contain 1iU of insulin. U100 syringes are most popular in a 3/10cc size, with 30 marks (100 marks per full cc). Measuring U100 insulin to one mark in a U100 syringe will also contain 1iU of insulin. Note that although the two syringes hold the same amount of active insulin, there's more (2.5 times as much) fluid in the U40 syringe -- it's more dilute.

## What about shelf life?

The factors affecting shelf life of a vial that has been opened are, exposure to light, accumulating contaminants from re-used syringes (or even new syringes), mixing with incompatible insulins, lack of refrigeration (loss of sterility), and at some point, chemical instability. You should not use insulin that suddenly looks different. PZI is clear (not cloudy) with white sediment (no clumps), that when mixed gently, looks like watery milk. ***Compounded insulins, as well as user-diluted or mixed insulins have an opened-life of 30 to 90 days.***

## Generic (compounded) PZI vs. brand name PZI insulin

Compounded insulin may not be appropriate for your cat due to the expiration date. Compounded insulin should be used within 90 days of opening the vial, therefore, if your cat is on less than 3 units twice a day the vial will expire prior to being fully used. Compounded insulin generally costs less than the brand name PZI. ***Due to its short shelf life, it may be required that compounded insulin be ordered and shipped directly to your home.***

<b><i>Comparison Chart</i></b>	<b>PZI brand name</b>	<b>Compounded PZI</b>
<b>Bottle size</b>	<b>10ml</b>	<b>5ml</b>
<b># Units in bottle</b>	<b>400 units</b>	<b>500 units</b>
<b>Expiration</b>	<b>3 years</b>	<b>3 months</b>
<b>Syringe required</b>	<b>U40</b>	<b>U100</b>
<b>Cost</b>	<b>\$</b>	<b>\$</b>