

From: Dimitrios Douros dnworks@yahoo.com

Subject: How much is 100ppm in real life?

The new study claiming 100ppm gluten is safe for celiacs resulted in many folks asking what that meant 'in real life'. So I decided to put PPM in perspective:

- Simply put 100ppm means if you have one million of something, 100 out of that million makes 100ppm. It can be a million of anything - oranges, cars, grams of fat or ounces of gluten.

So let's stick to our favorite topic: gluten. To make the math easier I will first calculate what 150ppm amounts to in real life.

- Total protein (not all of it is gluten) composition of wheat ranges from 8% to 15%. In ppm that translates to 80,000ppm to 150,000ppm protein (mostly gluten)

- So, a product with 150ppm gluten has 1/1000 (150/150,000) the gluten of wheat. In human terms, take a slice of wheat bread and cut it into 1000 pieces - crumbs. 150ppm is the gluten you would get in one of those crumbs.

How much gluten is that in weight: Take a 16-slice loaf of bread baked with 500g (a bit more than 1lb) of wheat flour:

$$\frac{500\text{grams} * 15\%}{16 \text{ slices} * 1000 \text{ 'crumbs/slice'}} = 0.005 \text{ grams, about } 0.0002 \text{ oz.}$$

So, the new study that claims 100ppm of gluten is safe for celiacs translates to 100ppm/150ppm or 2/3 of the number calculated above:

100ppm is equivalent to about 0.003 grams or 0.0001 oz. of gluten

Regards,
Dimitrios Douros