



# THE HIGHS AND LOWS OF SODIUM: IT ALL ADDS UP

## Summary

When people talk about high, medium or low salt foods, they usually mean how much sodium is in 100 grams of them. High sodium foods, include salt, savoury spreads, crackers and many meats. Low sodium foods include most fruit and veges, chicken, and some fish.

It's also important to think about how much sodium is in each serving of what we eat, because serving sizes can be more or less than 100 grams. We need to add up all the sodium in all the servings we eat each day to work out exactly how much we're getting. We can work out how much sodium is in any salt we use to cook or bake with at home by using a simple maths calculation. It all adds up!

This table shows (in brackets, in milligrams – mg<sup>\*</sup>) is the amount of sodium per serve for some common foods and ingredients in the low, medium and high sodium food categories.

Low (<120 mg Sodium/100g)	Med (120 to 600 mg Sodium/100 g)	High (> 600 mg Sodium/100g)
100 g boiled unsalted silverbeet (100 mg)	Small 220 g tin baked beans (1040 mg)	1 teaspoon salt (2,300 mg)
Single bars of a few muesli bars (10 to 30 mg)	Single bars of many muesli bars (40-140 mg)	1 teaspoon baking soda (1,288 mg) 1 teaspoon baking powder (402 mg)
179 g chicken breast (108.5 mg)	135 g turkey breast (378 mg)	1 pork sausage (430 mg) 2 rashers streaky bacon (533 mg)
100 g drained firm tofu (2.3 mg)	70 g crab meat (344 mg)	85 g of Corned beef (624 mg)
100 g baked potato (2 mg)	Medium McDonald's fries (421 mg)	10 salted potato crisps (180 mg)
125 mL plain unsweetened yoghurt (50 mg)	45 g cottage cheese (149 mg)	30 g feta cheese (360 mg) 30 g tasty cheddar (214.5 mg)
1 cup air-popped unsalted popcorn (0.8 mg)	12-13 BBQ rice crackers (91 mg)	52.4 g cup of salted pretzels (900 mg)
1/3 cup rolled oats (1 mg) or breakfast muesli like Hubbard's Berry Berry Nice/Simply Natural or Sanitarium Toasted (10-33 mg)	30 g serves of breakfast cereals like Cheerios, Weet-Bix, NutriGrain, Coco Pops (80-145 mg)	One 126 g plain white scone (1100 mg)
159 g hoki fillet pan fried (120 mg)	151 g canned tuna in brine (470 mg)	1 crab stick (340 mg)
1 raw apple (1.3 mg) 1 raw celery stalk (21 mg)	200 g frozen edamame (soy) beans (692 mg)	5 g (1/2 teaspoon) Vegemite (165 mg) 1 tablespoon soy sauce (1074 mg)
1 cup brown or white boiled rice (2.1-1.2 mg)	2 slices wheatmeal sandwich bread (230-260 mg) 90 g white bagel (376 mg)	4 Mealmates crackers (200 mg) 2 Rice Cruskits (69 mg)
<p>* A milligram (mg) is one thousandth of a gram (g). Source: Harold's Food Analyser, based on the Concise New Zealand Food Tables, 12th edition 2016 (2017) or food labels. 2300 mg is NZ Ministry Health upper daily sodium limit for adults; 400 to 800 mg is recommended for 9 to 13 year olds.</p>		

Per serve values are helpful for working out how much sodium we're getting overall. Not only are serve sizes different between foods, brands, (and people!), but our daily sodium intake is the sum total of many serves of lots of different foods. Several serves of a low or medium sodium food, might add up to more than a single serve of a high sodium one. For example, someone eating four slices of sandwich bread each day is getting a 600-mg serve of sodium just from the bread: if they spread each sandwich with one serve of a typical margarine and vegemite they end up with a total of about 1000 mg sodium from their sandwiches ... and we haven't added the sodium from their breakfast and dinner yet - or from that snack of chippies.

Per 100 g values are useful for comparing the sodium or salt content of similar foods (e.g. different types of cheese or crackers).

Check how much sodium you're getting in your meals using Harold's Food Analyser!

## How do I convert sodium to salt values?

There's a 1:1 ratio of sodium to chlorine in salt (NaCl) - but you can't just halve the weight of salt to get the amount of sodium. Sodium atoms (their basic particles) are smaller and weigh less than chlorine ones, so only make up just under 40% by weight of the compound we call salt. You may also need to convert between grams (g) of salt and milligrams (mg) of sodium. Fortunately, there is an easy formula for all of this:

To convert milligrams of sodium to grams of salt:

**Multiply the sodium figure in milligrams (mg) by 2.5 and then divide by 1,000 to get grams**

To convert grams of salt to milligrams of sodium:

**Divide the salt figure in grams by 2.5 and then multiply by 1,000 to get milligrams**



### USEFUL LINKS

Life Education Trust, 2017. "Sodium" factsheet.

## How do I convert sodium or salt values to everyday kitchen measurements?

The size of your salt grains and teaspoons may affect this slightly, but as a rough guide:

Milligrams of Sodium	= grams of Salt	= teaspoons of Salt	Milligrams of Sodium	= grams of Salt	= teaspoons of Salt
400	1.0	1/6 or pinch	2000	5	1 level
500	1.25	1/4	2300	5.75	1 rounded
1000	2.5	1/2	2400	6	1 1/4
1500	3.75	3/4	3500	8.75	1 3/4

2000 mg sodium is WHO recommended daily intake (DI); 3500 mg is average NZ DI.

2300 mg is NZ Ministry Health recommended upper DI limit for adults, and 400 to 800 mg for 9 to 13 year olds.

If your scones recipe calls for one teaspoon (5 g) of salt and serves 4 people, you'll each be getting 1/4 of a teaspoon of salt from it or around 500 mg sodium per serve. If the same recipe also uses 1 teaspoon baking soda, that's adding another 1,288 mg sodium overall - or another 322 mg per serve (so a total of 822 mg/serve) ... and there may be salt from other ingredients to add.

## REFERENCES

Foodwatch, 6 August 2010. "How to convert sodium to salt (and salt to sodium)": author Catherine Saxelby. Retrieved from: <http://foodwatch.com.au/blog/measures-and-conversions/item/how-to-convert-sodium-to-salt-and-salt-to-sodium.html> 10 August 2017.

Ministry of Health, July 2012. "Food and Nutrition Guidelines for Healthy Children and Young People (Aged 2-18 years): a Background Paper. Partial Revision February 2015." Retrieved from: <http://www.health.govt.nz/system/files/documents/publications/food-nutrition-guidelines-healthy-children-young-people-background-paper-feb15-v2.pdf> 10 August 2017.

New Zealand Institute for Plant and Food Research Limited and Ministry of Health, 2017. "New Zealand Food Composition Database". Retrieved from: <http://www.foodcomposition.co.nz/foodfiles> 14 August 2017.