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## Calcium glutamate sold retail in Australia

Calcium glutamate (made in France) came on the Australian retail market when a 25 kg drum reached Hobart in March 2005. Now Australians can buy small retail packets at a price that compares favourably with supermarket prices for other spices and seasonings.

Oddly enough this was not the first Australian consignment. The meat trade has been using calcium glutamate for some time to make well-flavoured sausages and other smallgoods labelled 'NO MSG'. The importers are large manufacturers who buy large batches of 250 kg. They have no interest in reselling it, or in supplying the niche market for reduced salt and low salt products where sodium-free flavour enhancers can be so extremely useful.

### Where to buy it

The national distributor is Eumarrah Wholefoods in Hobart. See page 3 for full details and prices.

### The MSG debate

Salt Skip News No 133 (February 2005) discussed the history of the Chinese Restaurant Syndrome, and pointed out that MSG has not yet been proved guilty and salt may well be the real culprit.

— Double-blind scientific studies with volunteers who sincerely believe they are sensitive to MSG have repeatedly failed to confirm it, and this may be because the MSG is harmless unless it is accompanied by a

huge dose of salt. Newsletter 133 supplies the bibliography for those who would like to pursue it.

### The magic of calcium glutamate

It brings out the flavour of savoury foods, but works quite differently from salt. Salt adds its own extra flavour and you can easily add too much, but calcium glutamate has very little taste of its own.

A surprisingly small amount has the maximum effect—up to 0.8% by weight is all you need. Adding more has no further effect on flavour.

Two level metric teaspoonfuls (10 mL) weigh 8 grams and will make a litre of soup, a litre of gravy for a casserole, or a kilogram of mincemeat for rissoles.

Butchers make a 5kg batch of NAS sausages with half a packet (40g). However ordinary sausage casings can raise the sodium content above 120 mg/100g, even after thorough rinsing. Tell your butcher that DEVRO supply the synthetic hog casings used in supermarket sausages. They are not packed in brine, and Devro know the sodium analysis and can advise the meat trade which of their products would be best.

In Hobart and Launceston, Tasmania, the Wursthaus sells NAS bratwurst sausages—a mixture of low fat pork and beef, with sodium 96 mg/100g.

## The latest on the stone age diet

The New England Journal of Medicine attracted the world's attention in 1985 with an article on 'Paleolithic Nutrition' [1]. It analysed the food our ancestors were eating in the Stone Age, in the light of the latest fossil evidence.

At the end of the Stone Age about 10 000 years ago the invention of agriculture and animal husbandry made revolutionary changes to the human diet. Salt gathering and manufacture 5000 years later was another major challenge, but the modern epidemic of salt-related illness dates from little more than 200 years ago when the Industrial Revolution made salt cheap and abundant.

Today there is a universal consensus that we are still genetically programmed to the diet and lifestyle of our ancestors. We still have their genes, and these modern changes, along with our sedentary habits, are at the root of the so-called 'diseases of civilisation', which include obesity, diabetes, high blood pressure, strokes and heart attacks.

The challenge of the 21st century is to prevent all these preventable diseases, and in 2005 there has been a major update [2], which makes interesting reading.

### Sodium

Added salt has increased our salt intake tenfold since the Stone Age, and 90% of our present salt intake is this added salt that we don't need. The excess sodium causes or aggravates about a dozen salt related illnesses described in Chapter 13 of *Salt Matters*.

### Chloride

The heavy load of excess salt brings an equal excess of chloride as well as the excess sodium, and chloride has important long-term health effects.

Nearly all foods affect the acidity of the urine, making it either more acid or

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more alkaline.

Fish, meat, poultry, eggs, shellfish, cheese, milk and cereals have an acid effect, while fresh fruit, leafy and root vegetables and nuts have an alkaline effect (except for legumes, which are roughly neutral).

Foods with an alkaline effect increase the bicarbonate in the urine and these foods predominated in the Stone Age. The added chloride in the modern diet tips the balance to acid, an effect that increases with age, as kidney function declines. The acid balance contributes to osteoporosis and calcium kidney stones, and accelerates the age-related loss of kidney function and muscle.

### Potassium

Potassium is beneficial. It is the most abundant element in all living tissue, and the unsalted diet of the Stone Age was much richer in potassium than sodium.

Today we reverse the ratio not only by adding salt but by eating less fruit and vegetables and introducing cereals. The high proportion of stored starch in cereals is potassium-free, and we make it worse by milling cereals, removing 70% of the potassium and leaving only the starch, in white bread and polished rice.

### References

1. Eaton SB, Konner MJ. Paleolithic nutrition: a consideration of its nature and current implications. *N Engl J Med* 1985;312:283-89.
2. Cordain L, Eaton SB, Sebastian A, Mann N, Lindeberg S, Watkins BA, et al. Origins and evolution of the Western diet: health implications for the 21st century. *American Journal of Clinical Nutrition* 2005;81:341-54.

## An OK pasta sauce—in spite of its strange label



Some supermarket health food shelves carry **Naked Foods pasta sauce** in 500 mL glass bottles. The NAS claim agrees with the ingredient list (below), but the sodium data need updating. It is true that fructose, oil and vinegar are sodium-free, but fresh tomatoes have 6 mg/100g (or mg/100 mL) and tomato concentrate (with water boiled off) has more sodium. Onions have up to 20 mg/100g, and herbs and spices have a little sodium. The flavour is good though, and we recommend it.

• NO ADDED SALT • NO ADDED SUGAR  
• NO PRESERVATIVES • NO ARTIFICIAL  
COLOURS OR FLAVOURS • NO ADDITIVES

INGREDIENTS Tomatoes  
[from concentrate & diced] (90%), Onions (5%),  
Fructose, Oil, Vinegar, Herbs & Spices

Shake well before opening. Refrigerate after opening

### NUTRITIONAL INFORMATION

Serving Size: 100ml

Servings per Container (approx) 5

	Per Serve	Per 100ml
Energy	193kJ	193kJ
Protein	1.3g	1.3g
Fat	Total 0.4g	0.4g
	Saturated nil	nil
Carbohydrates	5.0g	5.0g
	Sugar 4.0g	4.0g
Sodium	nil	nil
<b>GI INDEX</b>	<b>LOW</b>	

## Prices of calcium glutamate by mail order

Eumarrah Wholefoods supply retailers and butchers, and sell 80-gram packets by mail order post-free in Australia for \$7.25 Australian (AUD 7.25). and 400-gram packets for \$32.00. Their postal address is 30 Pearl Street, Moonah, TAS 7009, phone (03) 6273 9511, international 61-3-6273-9511, FAX 6273 9936 (email: eumarrah@trump.net.au).

Compare the price of calcium glutamate by mail order with supermarket shelf prices for some herbal flavour enhancers at Woolworth's in Tasmania in March 2005. Check dollars per kilogram (\$/kg) to the nearest dollar, shown in brackets:

- Calcium glutamate \$7.25 for 80g by mail order (\$91.00/kg)
- McCormick whole cloves \$3.99 for 25g shelf price (\$160.00/kg)
- Master Foods Italian Herbs \$2.30 for 10g (\$230/kg)
- McCormick Tarragon Leaves \$2.78 for 6g (\$463.33/kg)

Tarragon leaves are five times more expensive by weight, yet calcium glutamate is a more powerful flavour enhancer that goes further—80 grams is enough for 10 litres and 400 grams will make 50 litres (see page 4 for a good way to measure it in the kitchen).

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## Cooking with calcium glutamate

Glutamic acid and its compounds are nutrients found in breast milk and savoury foods, especially meat, poultry, fish and vegetables (notably tomatoes and mushrooms). They were first extracted from seaweed. The Japanese (who are major producers) make them from soybean protein, and the calcium glutamate we get from France is made in the European factory of Ajinomoto, whose head office is in Tokyo.

Remember that glutamates occur naturally in **savoury foods**, including vegetables (but excluding eggs). They make no difference to the flavour of fruits, sweet foods, eggs or bread. Calcium glutamate, being sodium-free, is a natural alternative to salt, and makes up for the perceived lack of flavour when people first stop adding salt to soups, casseroles or stews.

The second thing to remember is **how little you need**. It goes twice as far as Salt Skip Stock Powder. There is no point in adding more than 0.8% by weight (1.0% by volume).

1.0% by volume of course is **one in a hundred**, so half a level metric teaspoonful (2.5 mL) makes a metric cupful (250 mL). Good cooks who “don’t measure anything” may waste a lot of calcium glutamate. They need a set of metric spoon measures that can be scraped level with a knife or spatula.

- a quarter tsp (1.25 mL) makes 125 mL = ½ cup
- a half tsp (2.5 mL) makes 250 mL = 1 cup
- one teaspoon (5 mL) makes 500 mL = 2 cups
- one level Australian tablespoon (20mL) makes 2000 mL = 2 litres



### THE RARITY OF INTOLERANCE TO GLUTAMATES

Most people with food intolerance find that several foods are involved. Identifying each and every food is notoriously difficult, but when you strongly suspect one particular food, a double blind test can show whether you are right.

MSG is seldom incriminated, in fact glutamate intolerance is so rare that—after 35 years of research—one of the strictest and most conservative food regulators in the world, the US Food and Drug Administration (FDA), still recognises glutamates as GRAS substances (Generally Recognised as Safe).

If you did react to MSG you might react to other glutamates. If you have any doubt about your glutamate tolerance, your doctor can refer you to a specialist clinic for double blind testing. One clinic in particular (the Food Allergy and Intolerance Unit at the Royal Prince Alfred Hospital, Sydney) has an international reputation for research on glutamate intolerance. If you go there they too will tell you how rare it is—how surprisingly few people have a positive test compared with the number who were expecting one.

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