

## Using MSG to Reduce Sodium – Ratios & Recipe Applications

### 1. Overview

Monosodium glutamate (MSG) provides umami, the savory taste that deepens flavor without excess salt. It contains roughly one-third the sodium of table salt, allowing significant sodium reduction in recipes. When used correctly, MSG enhances the natural flavor of ingredients rather than adding its own distinct taste.



### 2. Sodium Comparison Table

Ingredient	Sodium (mg per gram)	Relative Sodium (%)
Table Salt (NaCl)	390 mg	100%
MSG (Monosodium Glutamate)	120 mg	31%
Soy Sauce (typical)	560 mg per tsp	—
Coconut Aminos	90 mg per tsp	≈16% of soy sauce

### 3. Substitution Ratios

Start with replacing about 30–50% of salt in a recipe with MSG for best balance.

Original Salt Amount	Replace With	Sodium Reduction
1 tsp salt (6 g)	$\frac{1}{2}$ tsp salt + $\frac{1}{2}$ tsp MSG (≈1 g)	≈35–40%
$\frac{1}{2}$ tsp salt (3 g)	$\frac{1}{4}$ tsp salt + $\frac{1}{4}$ tsp MSG (≈0.5 g)	≈35%
$\frac{1}{4}$ tsp salt (1.5 g)	$\frac{1}{8}$ tsp salt + $\frac{1}{8}$ tsp MSG (≈0.25 g)	≈35%

### 4. Where to Use MSG Effectively

- Soups and broths – add near the end of simmering.
- Stir-fries and sautéed vegetables – mix with soy sauce or coconut aminos.
- Chicken, pork, tofu – sprinkle lightly before or after cooking.
- Grain dishes – add  $\frac{1}{4}$  tsp per 2 cups cooked rice, barley, or quinoa.
- Egg dishes – mix a pinch into the seasoning blend.

## 5. Umami-Boosting Partners

Combining MSG with natural umami-rich ingredients creates depth without excess salt:

- Mushrooms (shiitake, maitake)
- Tomatoes (roasted, paste)
- Seaweed (kombu, nori)
- Miso, soy sauce, or coconut aminos
- Parmesan or aged cheese
- Anchovies or bonito flakes

## 6. Example Recipe Applications

- Soups: Replace  $\frac{1}{2}$  the salt with  $\frac{1}{4}$  tsp (1 g) MSG per 2 servings.
- Chicken marinades: For every  $\frac{1}{2}$  tsp salt, use  $\frac{1}{4}$  tsp MSG +  $\frac{1}{4}$  tsp salt.
- Vegetables: Add  $\frac{1}{8}$  tsp (0.5 g) MSG per 250 g.
- Grains: Stir in  $\frac{1}{4}$  tsp MSG per 2 cups cooked rice or barley.

## 7. Health & Safety Notes

MSG has been deemed safe by global food authorities. Some people may experience mild sensitivity if consuming several grams on an empty stomach, but it's rare. MSG is metabolized just like natural glutamate found in foods.

## 8. Recommended Usage & Daily Limits

- Culinary range: 0.2–0.8% of total food weight ( $\approx \frac{1}{4}$ – $\frac{1}{2}$  tsp per serving).
- Soups & sauces:  $\frac{1}{4}$  tsp per 250–300 g food.
- Safe intake: up to 22 g per day for a 70-kg adult (normal use <2 g/day).
- Start small— $\frac{1}{4}$  tsp per 2 servings. If flavor feels flat, add a pinch of salt, not more MSG.