



# Saeujang

Soy Sauce Marinated Shrimp | 새우장



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Saeujang is an elite Korean preserve that merges the deep umami of marine elements and shiitake mushrooms with the natural reducing sugars of apples and onions, brightened by a post-chill citrus infusion. Engineered with a multi-stage osmotic process, the raw shrimp undergo primary low-salinity (4.5–5.5%) cold curing for 24 hours, after which the soy brine is re-boiled to restore lost salinity and completely pasteurize the medium. By incorporating lemon slices exclusively *after* the re-boiled brine is thoroughly chilled, bitterness is avoided while introducing a clean, citrus-driven snap that preserves absolute bounciness in the shrimp meat.

- 🕒 **Total:** 2–3 Days | **Prep:** 40 Mins | **Cook & Ferment:** 48–72 Hours Total (Including 24h primary cure and 24h re-boiling aging)
- 🔍 **Difficulty:** High (Requires strict multi-stage thermal control, ice-bath quenching, and precise hygiene)
- 🌶️ **Profile:** An explosive, bouncy snap of pristine shrimp meat framed by a sweet, aromatic apple-onion umami and a clean citrus finish
- 🍷 **Focus:** Triple Umami Extraction, Low-Salinity Primary Cure, Brine Re-boiling Pasteurization, Post-Chill Lemon Infusion
- 🍚 **Pairing:** Steaming hot white rice, raw egg yolk, sesame oil, toasted gim, or gamtae

### Physicochemical & Sensory Matrix

- **Initial Salinity:** 4.5% ~ 5.5% (Low-salinity balance preventing immediate cellular shock to the shrimp flesh)
- **Final Salinity:** 5.5% ~ 6.5% (Stabilized target salinity achieved post-re-boiling evaporation and osmotic equilibrium)
- **pH Equilibrium:** 5.0 ~ 5.4 (Natural organic acid buffer established by apples, onions, and post-chill lemon)
- **Textural Crunch Index:** [■■■■■] (Absolute bounciness and gelatinous snap secured via multi-stage osmosis and thermal quenching)
- **Umami Density (T1R1/T1R3 Synergy):** 9.6 / 10 (Three-dimensional synthesis of anchovy inosinate, shiitake guanylate, and kelp/soy glutamate)
- **Shelf Stability:** 5–7 Days refrigerated (Enhanced significantly by the re-boiling pasteurization cycle)
- **Aroma Profile:** Fermented Soy Melanoidins | Savory Mushroom/Anchovy Notes | Clean Citrus Zest

### Ingredients (Yields 1 Medium Airtight Container)

- **Primary Crustacean Matrix:** 1kg Fresh, Live-grade Whiteleg Shrimp (Saeu). Must feature rigid, translucent shells and firm heads.

- **Aromatic Broth Matrix:** 2 Cups Naturally Brewed Soy Sauce, 3 Cups Purified Water, 2 Sheets Dried Kelp (10x10cm), 15 Dried Anchovies, 3 Dried Shiitake Mushrooms
- **Natural Sugar & Vegetable Matrix:** 0.5 Apple (Cored and coarsely sliced), 0.5 Onion, 1 Scallion, 7 Cloves Garlic, 1 Knob Ginger, 4 Cheongyang Green Chilies, 2 Red Chilies, 1 tsp Whole Black Peppercorns
- **Post-Chill Additive:** 0.5 Lemon (Thinly sliced, seeds removed)
- **Balancer Matrix:** 0.5 Cup Cooking Wine (Cheongju)

### Allergy Information

- **Contains:** Crustacean (Shrimp), Soy, Wheat (inherent in brewed soy sauce)

**Equipment** Large Boiling Pot, Fine Strainer, Ice Bath Bowl (For thermal quenching), Airtight Glass Container, Toothpicks

### Cooking Instructions

1. **Preprocessing & Deveining:** Trim the feelers, horns, and tail water pockets. Insert a toothpick between the second and third shell segments to extract the dark digestive tract cleanly. Rinse in cold water and pat completely dry with paper towels.
2. **Triple Umami Broth Extraction:** In a pot, combine the water, soy sauce, cooking wine, kelp, anchovies, shiitake, apple, onion, scallion, garlic, ginger, and peppercorns. Bring to a boil over high heat. **Remove the kelp after 5 minutes**, then lower to medium and simmer for 15 minutes. Strain out all solids.
3. **Primary Chill & 1st Curing:** Submerge the broth pot into an ice bath to **completely chill the liquid down to 0–4°C (Thermal Quenching)**. Pack the clean shrimp into a container, pour the cold brine over them, and refrigerate for 24 hours to initiate low-salinity osmotic curing.
4. **Brine Re-boiling & Pasteurization:** After 24 hours, drain the soy brine back into a pot. Boil for 3 to 5 minutes to restore the salinity lost from shrimp moisture and eliminate any microbial activity. **Instantly chill the re-boiled brine back down to 0–4°C** using an ice bath.
5. **Post-Chill Infusion & Final Aging:** Pour the fully chilled brine back over the shrimp. Tuck the **lemon slices** and fresh chilies into the liquid. Return to the refrigerator for another 24 to 48 hours of aging to lock in the ultimate bounciness and complex umami.

### Professional Culinary Tips

- **1. Thermal Quenching & Non-denaturation:** Even when starting at a low

salinity (4.5–5.5%), the brine must be chilled to 0–4°C to prevent thermal denaturation of myosin and actin proteins, preserving the raw shrimp's bouncy gelatinous texture. This rule applies equally to the post-24h re-boiled brine before re-submersion.

- **2. Multi-Stage Osmosis & Re-boiling Sealing Mechanics:** Re-boiling the brine at the 24-hour mark resets the salinity diluted by the shrimp's internal moisture while completely pasteurizing the matrix, securing microbiological safety without compromising the low-salinity tenderizing effect.
- **3. Fruit Organic Acid & Reducing Sugar Synergy:** Natural reducing sugars from apples and onions drive a smooth, rounded sweetness. Meanwhile, adding heat-sensitive lemon citric acid and essential oils *strictly after* the re-boiled brine has been fully chilled prevents bitterness while fixing a clean, refreshing citrus snap.

### Gastronomic Pairing

- **The Ultimate Alchemy with Rice:** Dice the bouncy cured shrimp over a bowl of steaming white rice. Drizzle the concentrated, re-boiled soy brine, a few drops of roasted sesame oil, a raw egg yolk, and torn gamtae. Mixing thoroughly allows the heat of the rice to release the lemon zesty esters and deep marine umami for an unparalleled culinary peak.

### Nutrition Facts (Estimated)

Total Content : Approx. 100g (4–5 shrimp)

Calories : 115 kcal (High-protein crustacean matrix and natural fruit fructose)

– Sodium : 750mg (Multi-stage osmotically calibrated salinity barrier)

– Total Carbohydrate : 7.2g (Vegetable/apple reducing sugars and soy polysaccharides)

– Sugar : 3.8g (Naturally occurring fruit fructose)

– Total Fat : 1.2g (Unsaturated fatty lipids)

– Saturated Fat : 0.2g

– Cholesterol : 155mg (Natural crustacean sterols)

– Protein : 18.8g (Dense structural muscle proteins)

– Dietary Fiber : 0.6g

\*Daily Values are based on a 2,000 calorie diet and standard Korean nutritional reference values.

\*\*Nutritional values are calculated based on original ingredients; substitutions may alter specific macronutrients.

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## Origins and Food Culture of Soy Sauce Marinated Shrimp (Saeujang)

### 1. Historical Lineage: Crustacean Pickling in *Jeungbo Sallim Gyeongje* and *Gyuhap Chongseo*

- Korean preservation of coastal crustaceans bifurcated historically into fermented salted pastes (*jeotgal*) and soy sauce-steeped preserves designed for whole-table presentation. Classical Joseon texts, such as Yu Jung-im's *Jeungbo Sallim Gyeongje* (1766) and Seo Yu-gu's *Imwon Gyeongjeji*, documented methods of steeping autumn prawns in boiled brine, spirits, and spices for long-term banquet provisions.
- In Lady Yi's 1809 encyclopedia *Gyuhap Chongseo*, a dedicated recipe titled "**Method for Marinating Large Prawns (Daeha)**" specifies trimming antennae and swimmerets before submerging the shrimp in boiled, chilled dark soy sauce (*jin-ganjang*) flavored with vinegar, rice wine, ginger, and scallions. This technique adapted the prestigious royal court method of preparing soy-marinated crab (*gejang*) to seasonal wild catches from the Yellow Sea, providing noble households with a refined banquet centerpiece.

### 2. The Chemistry of Cold-Steeping Brines and Osmotic Gelation

- The culinary science of Saeujang hinges upon cooling the spiced marinade completely before introducing the delicate raw proteins.
- Pouring boiling soy sauce over raw shrimp would thermally coagulate actomyosin, turning the meat opaque and rubbery while destroying delicate marine aromatics. The marinade is thoroughly simmered with herbs to volatilize raw alcohol and draw out aromatics, then cooled down to refrigerator temperatures (4–10°C). Submerging the cleaned shrimp in this cold, hypertonic solution drives moisture out without thermal denaturation, allowing salt and fermented soy glutamates to slowly saturate the core, transforming the muscle fibers into a crystalline, toothsome gel.

### 3. Evolution from Noble Delicacy to Modern Table Staple

- While marinated whole crab (*ganjang-gejang*) historically dominated Korean raw cured seafood traditions, handling spiny crab shells presented dining hurdles. With the proliferation of coastal shrimp aquaculture and wild prawn harvests in the early 2000s, Saeujang emerged as a more accessible, convenient, and uniform alternative.
- Contemporary food culture has introduced pre-peeled varieties (*kkan-saeujang*), commonly served over rice bowls (*saeujang-deopbap*) or as raw seafood toppings in modern dining. Saeujang illustrates how traditional Korean osmotic curing principles continue to evolve to meet contemporary culinary lifestyles while preserving the unadulterated sweetness of raw coastal harvests.

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**Submerged in chilled soy marinade, retaining its translucent bounce beneath a shell of coastal crimson, Saeujang—soy-marinated raw shrimp—represents a delicate, razor-thin equilibrium between raw marine vitality and savory preservation.**

Saeujang is crafted by briefly curing fresh, high-grade shrimp (typically whiteleg or sweet shrimp) in a seasoned brine of boiled soy sauce, aromatics, chili, and sweet rice wine. Unlike long-term aged pastes that demand months of cellar patience, Saeujang captures a fleeting moment of cold alchemy: over two to three days of refrigeration, the hypertonic soy liquor draws out excess moisture while infusing the dense, gelatinous muscle tissue with rich amino acids, tightening the flesh into a bouncy, springy state.

Lifting a plump, amber-tinted shrimp from the chilled brine reveals a taut, glossy exterior. Biting into the raw flesh yields a satisfying, crisp snap, immediately followed by a surge of clean oceanic sweetness that melts into the rich umami of the soy base. Sucking the creamy, savory tomalley from the shrimp head delivers an intensely buttery finish, free of harsh fishiness. Spooned over hot white rice with a drop of sesame oil and a raw egg yolk, it transcends simple comfort food, emerging as an exquisite, ephemeral luxury of the Korean table.

The true identity of Saeujang defies the slow clock of traditional fermentation, operating instead on the razor-sharp timing of cold-chain culinary physics. Rather than building flavor through extended aging, it relies on strict refrigeration and short-term curing (2–4 days) to lock in raw freshness while enveloping the delicate seafood in a rich, savory cloak.

## **Editor's Review**

### **1. Osmotic Muscle Tightening and Gelatinous Snap**

The precise salinity of the soy brine exerts gentle osmotic pressure, drawing out excess surface water while locking in the structural integrity of the raw shrimp muscle. This firms the soft, slippery flesh into a resilient, gelatinous texture that bursts cleanly upon mastication.

### **2. The Rich Emulsion of the Tomalley**

The head cavity, rich in natural lipids and hepatopancreas tissue, interacts with the savory brine to create a naturally creamy, emulsified richness that cushions the sharp edges of soy saltiness and delivers deep, buttery umami.

### **3. Cold-Chain Physics and Ephemeral Precision**

Operating entirely outside the realm of ambient fermentation, Saeujang depends on modern refrigeration and strict temporal control, substituting traditional earthen jars with precision cold storage to capture a raw, high-tide delicacy at its

absolute peak.

