

Modernist Ingredient Ratios

Thanks for letting me help you in the kitchen! If you have any questions don't hesitate to contact me. For more information and techniques, visit me at ModernistCookingMadeEasy.com - Jason

Agar

Disperses at any temperature and bring above 100°C for 3-5 minutes to hydrate. Gel sets in minutes at 40-45°C and melts at 80°C.

Foams

Light: 0.3-1.0%
Dense: 1.0-2.0%

Gels

Soft: 0.2-0.5%
Firm: 0.5-3.0%
Fluid: Blend a 0.5-2.0% gel

Carrageenan, Iota

Disperse in cool liquids and bring above 70°C to hydrate. Gel sets in several hours at 40-70°C depending on calcium content. Melts about 5°C above setting temperature.

Thicken Dairy

Minor: 0.02-0.04%

Gels

Regular: 0.75-1.5%
Dairy: 0.4-1.5%
Fluid: Blend a 0.1-1.0% gel

Foams

From 0.2-1.0% fluid gel

Carrageenan, Kappa

Disperse in cool liquids and bring above 70°C to hydrate. Gel sets in several hours at 35-60°C depending on calcium content. Melts about 10-20°C above setting temperature.

Gels

Dairy: 0.3-1.5%
Fluid: Blend a 0.3-1.0% gel

Gelatin

Bloom (hydrate) in cold water then disperse in liquid above 50°C. Gel sets below 30°C in several hours and melts above 30-40°C. One ¼ ounce / 7.2 gram package of Knox powdered gelatin equals 4 sheets. "Sheets" below are per 100 grams of liquid.

Gels

Soft: 0.5-1.0% / 0.3-0.5 sheets
Hard: 1.0-6.0% / 0.5-3.3 sheets
Marshmallow: 10% / 5.5 sheets

Foams (from fluid gels)

Light: 0.4-1.0% / 0.2-0.55 sheets
Dense: 1.0-1.7% / 0.55-0.9 sheets

Lecithin

Disperse and hydrate instantly in any temperature. To foam, blend air into liquid with immersion blender or whisk until frothy. When stabilizing, 0.1-0.4% xanthan gum can also be added.

Foams

Airs and froths: 0.25-1.0%

Stabilizing

Emulsions: 0.3-1.0%

Maltodextrin

Disperse into liquid fat at room temperature by whisking or stirring. Because of high ratios, using more flavorful fats are ideal. Maltodextrin can be added gradually until the desired consistency has been reached.

Thickening Fats

Pastes: 30.0-45.0%
Powders: 45.0-60.0%

Methylcellulose

Methylcellulose varies greatly based on the specific type used, please check the packing or online for exact measurements. Can be dispersed in either hot liquids or hot and cold, depending on the type, and hydrates below 15°C over an hour or two. Reminder: methylcellulose sets as it heats and melts as it cools. Sets above 50°C-70°C and melts below 20°C-30°C. Foams are typically made by whisking in a standing mixer.

Foams

Regular: 0.75-2.0%

Gels

Regular: 0.25-3.0%

Sodium Alginate

Disperses and hydrates quickly at any temperature. Sets at any temperature in the presence of calcium and melts above 130°C. Typically used with calcium lactate or calcium chloride for spherification. The "Base" below is the flavored liquid you are spherifying. In direct spherification calcium chloride can be substituted for the calcium lactate.

Reverse Spherification

Calcium Lactate Base: 1.0-3.0%
Sodium Alginate Bath: 0.4-0.5%

Direct Spherification

Sodium Alginate Base: 0.5-1.0%
Calcium Lactate Bath: 0.5-1.0%

Xanthan Gum

Disperses and hydrates quickly at any temperature. At greater concentrations it can add a slimy mouthfeel. When thickening, can be added gradually until the desired consistency has been reached.

Thickening Liquids

Thin Sauce: 0.1-0.3%
Thick Sauce: 0.3-1.0%

Foams

Froths: 0.2-0.8%

Stabilizing

Emulsions: 0.1-0.8%
Purees: 0.2-0.4%

Other Ingredients

Gellan

Gels: 0.5-1.25%

Guar Gum

Thickening: 0.1-1.25%

Gum Arabic

Thickening: 1.0-45.0%

Mono- and Diglycerides

Emulsifying Fats: 0.5-2.0%
Thickening Fats: 2.0-10.0%

Ultra-Sperse

Thickening: 0.2-5.0%

Ultra-Tex

Thickening: 1.0-8.0%

Versawhip

Foams: 0.5-2.0% w/ xanthan gum