



Methionine Chart

General

This chart was compiled from multiple databases to help guide the implementation of a methionine restricted or low methionine diet. Some nutritional calculators do not provide precision to 1 milligram which is insufficient in designing a methionine restricted diet. This chart provides precision to 1 milligram.

This chart does not contain methionine levels for animal products because these values are very high and a 100% plant-based diet is highly recommended for optimal health and for slowing the progression of cancer. Chicken and fish contain the highest levels of methionine.

This methionine chart shows the methionine content for a 100 gram serving which is 3.6 ounces. Methionine is shown in grams and can be easily converted to milligrams by moving the decimal point three places to the right. Cooking does not affect the level of methionine except for addition or subtraction of water content.

A low methionine a methionine restricted diet by default is a low protein diet. An adequate amount of protein is provided by this diet if one eats sufficient calories. Sometimes it is necessary to limit physical activity to lessen one's caloric requirements.

How to use this chart:

Example: Acorn Squash is 0.010 grams of methionine for a 100 gram serving. This is equivalent to 10 milligrams of methionine for a 100 gram serving.

Example: Chia Seed is 0.588 grams of methionine for a 100 gram serving. This is equivalent to 588 milligrams for a 100 gram serving or 58 mg for a 10 gram serving.

Methionine Target Level for Therapeutic Effects

For therapeutic effects from a methionine restricted diet a target value of less than 2 milligrams of methionine per kg of body weight per day should be achieved.

Less than 2 mg/kgBW/d

A simplified calculation is to use an individual's body weight in pounds as the target level of maximum methionine.

Example: A 135 lbs. individual shall limit methionine to less than 135 mg per day.

Note: It is important not to worry or stress if the maximum level of methionine is exceeded as this is not a threshold. It is simply a target and if exceeded by 30-40% the effects are still quite valuable.

One does not need to weight and calculate every food. This chart is to create awareness of which foods are lowest in methionine and which are highest. Ideally, an all fruit diet will keep methionine intake at the lowest level while providing sufficient calories.

Follow this general formula: 70-100% fruit and 0-30% low methionine vegetables.

Exclude all nuts, seeds, grains and beans.

NOTE: This diet will cause weight loss for most individuals due to the low caloric density of the allowed foods. For individuals who are underweight, consult with NORI for guidance on designing a modified diet that is sufficiently low in methionine but will offer higher caloric intake. A low methionine diet can be cycled with a methionine replete diet if necessary to maintain weight. A cycled diet can be from 7-21 days low methionine and 7 days normal methionine.

Methionine Found In Raw Vegetables (fresh, not dried)

Acorn Squash	0.001
Alfalfa Sprouts	0.009
Artichokes, Globe	0
Artichokes, Jerusalem aka Sunchokes	0
Asparagus	0.031
Avocado	0.057
Bamboo Shoots	0.003
Beans, Fava Fresh	0
Beans, Green or Yellow aka String or Snap	0.022
Beans, Long (Asian) aka Yardlong	0.044
Bean Sprouts, Mung	0.034
Bean Sprouts, Soybean	0.137
Beet (root portion)	0.018

Beet Greens	0.018
Broccoli	0.038
Brussels Sprouts	0.032
Butternut Squash	0.012
Cabbage, Green	0.012
Cabbage, Red	0.013
Cabbage, Savoy	0.020
Cabbage, Bok Choy	0.009
Carrots	0.002
Cauliflower	0.028
Celery	0.005
Collard Greens	0.033
Corn, yellow	0.197
Cucumber with Peel	0.006
Edamame aka Fresh Soybeans	0.130
Eggplant aka Aubergine	0.011
Jicama aka Yambean	0.007
Kohlrabi	0.013
Garlic	0.076
Hubbard Squash	0.001
Kale	0.031
Lettuce: Butter & Bibb Types	0.015
Lettuce: Romaine	0.015
Lettuce: Iceberg	0.006
Lettuce: Green Leaf	0.017
Lettuce: Red Leaf	0.004
Lima Beans, Raw Green	0.068
Mushrooms	0.031
Onion	0.003
Onion, Green, Tops Only	0
Parsnip	0.014
Peas, Green	0.082
Peppers, Hot Anaheim	0.024
Peppers, Sweet Green Bell	0.001
Peppers, Sweet Red Bell	0.006
Plantain	0.017

Potato, Russet with Skin	0.031
Potato, White with Skin	0.027
Potato, Red with Skin	0.026
Pumpkin	0.011
Rutabaga	0.001
Shallots	0.003
Spinach	0.053
Squash, Yellow Summer Straight & Crookneck	0.014
Sweet Potato	0.029
Swiss Chard, Green	0.019
Tomato	0.006
Turnip (root)	0.011
Turnip Greens	0.035
Water Chestnuts	0
Zucchini aka Courgette	0.018

Methionine Found In
Fruits, Raw (fresh, not dried)

Apple with Skin	0.001
Apricot	0.006
Banana	0.008
Blackberry	0.003
Blueberry	0.012
Cantaloupe	0.012
Casaba Melon	0.002
Cherry, Red, Sweet, Table	0.001
Cherry, Red, Sour, Baking	0.016
Coconut, Fresh	0.063
Crabapple	0.006
Currants, Black Fresh	0.007
Currants, Red or White Fresh	0.003
Dates, deglet noor	0.022
Dates, medjool	0.017
Grapes, Red or Green European Table Type	0.009
Grapefruit	0.007
Guava	0.016

Honeydew	0.005
Kiwi	0.024
Lemon	0
Lime	0.001
Longan	0
Mango	0.005
Nectarine	0.006
Orange	0.002
Papaya	0.002
Pineapple	0.012
Peach	0.001
Pear, European	0.002
Pear, Asian	0.006
Persimmon, Japanese	0.005
Persimmon, native US	0.008
Plum	0.003
Pomegranate	0.038
Pomegranate Juice, Bottled	0.024
Prickly Pear	0
Quince	0
Raspberry	0.004
Star Fruit	0.021
Strawberry	0.003
Tangerine aka Mandarin	0.002
Watermelon	0.009

Methionine Found In **Nuts & Seeds**

Almonds	0.151
Almonds, Roasted	0.196
Brazil Nuts	1.008
Cashews, Roasted	0.120
Flax Seeds	0.139
Hazelnuts aka Filberts	0.221
Hazelnuts aka Filberts Roasted	0.222
Peanuts, Roasted with Skin	0.309

Pecans	0.183
Pine Nuts aka Pinon, Pinoli, or Pignoli	0.208
Pistachios, Roasted	0.120
Pumpkin & Squash Seeds aka Peptitas, Raw	0.551
Pumpkin & Squash Seeds aka Pepitas, Roasted	0.501
Sesame Seeds, Whole Raw	0.586
Sesame Seeds, Whole, Roasted	0.561
Sunflower Seeds, Raw	0.493
Sunflower Seeds, Roasted	0.420
Walnuts, English, Raw	0.236
Walnuts, Black	0.467
Watermelon Seeds, Dried	0.834

Methionine Found In
Beans, Legumes, Soy, Soy Products
(all dry unless otherwise noted)

Adzuki Beans	0.210
Black Beans	0.325
Cranberry Beans	0.346
Garbanzo Beans aka Chickpeas	0.253
Great Northern Beans	0.329
Kidney Beans	0.355
Lentils, ordinary brown	0.231
Lentils, red	0.212
Lima Beans (dried)	0.271
Mung Beans (dry, unsprouted)	0.592
Navy Beans	0.273
Peas, Green Split	0.251
Pink Beans	0.315
Pinto Beans	0.259
Soybeans	0.547
Soy Protein Isolate	0.704
Tofu, Firm	0.314
Tofu, Silken Light	0.460

Methionine Found In **Grains**

(Dry, Whole Unless Otherwise Stated)

Amaranth	0.226
Barley, Pearled	0.190
Grits, White, Regular & Quick, Enriched & Unenriched	0.184
Grits, Yellow, Reg & Quick, Enriched & Unenriched	0.184
Hominy, Canned in Water, White or Yellow	0.031
Millet	0.221
Oats	0.312
Popcorn	0.083
Quinoa	0.309
Rye	0.248
Spelt	0.258
Wheat, Hard Red Spring	0.230
Wheat, Hard Red Winter	0.201
Wheat, Soft Red Winter	0.174
Wheat, Durum	0.221

Methionine Found In **Rice**

(Uncooked Unless Otherwise Stated
Enrichment Does Not Affect Methionine Levels)

Brown, Long Grain	0.179
Brown, Medium Grain	0.169
White, Glutinous	0.160
White, Medium Grain	0.155
White, Short-Grain	0.153
Wild (North American)	0.110

Methionine Found In **Flours**

Arrowroot	0.006
Buckwheat, Whole-Groat	0.043
Carob	0.014

Cocoa Powder	0.202
Cornmeal, Wholegrain, Yellow or White	0.170
Cornmeal, Degermed, Enriched, Yellow or White	0.166
Cornmeal, Wholegrain, Blue	0.132
Corn Flour, Masa	0.196
Potato	0.107
Rice, Brown	0.163
Rice, White	0.144
Rye, Dark	0.209
Rye, Medium	0.140
Rye, Light	0.125
Semolina Enriched or Unenriched	0.198
Soy, Full-Fat, Raw	0.737
Soy, Full-Fat, Roasted	0.439
Soy, Defatted	0.034
Wheat Bran	0.234
Wheat Germ	0.456
Wheat, White All-Purpose, Bleached, Enriched	0.183
Wheat, White, Bread, Enriched	0.210
Wheat, White, Cake, Enriched	0.138

Methionine Found In **Assorted Food Products**

Agave Syrup, Raw	0.009
Currants, Zante, Dried	0.009
Molasses	0.002
Noodles, Cellophane (Mung Bean)	0.002
Noodles, Egg	0.268
Noodles, Ramen (American Supermarket Type)	0.958
Noodles, Soba	0.264
Noodles, Somen	0.134
Olives, Ripe, Canned, All Sizes	0.238

Olives, Pickled or Canned, Green	0.333
Pasta, Dry Uncooked	0.147
Potato Chips	0.109
Raisins, Seedless	0.001
Raisins, Golden Seedless	0.018
Rice Cake aka Cracker (styrofoam-like snack)	0.071
Rice Noodles	0.081
Seaweed, Agar	0.003
Seaweed, Laver	0.146
Seaweed, Wakame	0.006
Tortilla Chips, White Corn	0.162
Wonton Wrappers & Eggroll Wrappers	0.176