

The Oxalate Content of Food

The oxalate content of food can vary considerably between plants of the same species, due to differences in climate, soil quality, state of ripeness, or even which part of the plant is analyzed. Variations also may be caused by the different methods used for measuring oxalate in food. Published values for some foods can vary from negligible amounts to moderately high, so the foods have been grouped into broad ranges based on the higher values reported for each food. These food tables were compiled using the most up to date information available as of November 2007. In using these tables, it is very important to pay attention to the serving sizes listed.

A low oxalate diet is usually defined as less than 80mg oxalate per day. However, dietary oxalate restrictions will vary depending on the underlying condition causing high oxalate levels. The following suggested oxalate restrictions should be used only as a guide. Please check with your health provider to determine the appropriate level of oxalate restriction for you.

- **Group 1 - Very high oxalate foods:** all patients with calcium oxalate kidney stones, including those with Primary Hyperoxaluria are advised to avoid these foods.
- **Group 2 - High oxalate foods:** people with calcium oxalate kidney stones and high urine oxalate levels (hyperoxaluria), except those with Primary Hyperoxaluria are advised to avoid these foods. People with Primary Hyperoxaluria may not benefit from restricting these foods, as this will only limit their intake of other important nutrients without improving the hyperoxaluria.
- **Group 3 - Moderate oxalate foods:** Patients with Enteric Hyperoxaluria, should avoid these foods and all foods in Group 1 and 2. They should also follow a low fat diet with a high daily fluid intake. It may not be necessary for others with kidney stones and hyperoxaluria to restrict these foods, provided they consume adequate calcium at each meal (equivalent of 2/3 cup milk or 1 oz cheese or approximately 200mg calcium) & drink plenty of fluids.
- **Group 4 - Low oxalate foods:** These foods should be safe for most people with calcium oxalate stones regardless of the underlying cause, provided they eat adequate calcium at each meal & drink plenty of fluids.

Group 1 - VERY HIGH OXALATE FOODS

All patients with calcium oxalate kidney stones, including those with Primary Hyperoxaluria should avoid these foods in any amount.

All Bran ®	Chocolate soy milk	Rhubarb, cooked or raw
Almonds	Miso	Sesame seeds, whole, dried
Buckwheat flour, whole-groat	Mixed nuts without peanuts	Spinach, raw or cooked
Beets, cooked, pickled and raw	Tahini	Swiss chard, red or green, raw & cooked
Group 2 - HIGH	Group 3 - MODERATE	Group 4 - LOW
26 - 99mg per serving	10 - 25mg per serving	5-10mg per serving *Less than 5mg per serving
NUTS & SEEDS - ¼ cup serving (unless indicated otherwise)	NUTS & SEEDS - ¼ cup serving (unless indicated otherwise)	NUTS & SEEDS - ¼ cup serving (unless indicated otherwise)
Cashew nuts, raw	Macadamia nuts, raw	Coconut meat, dried *
Hazelnuts or filberts	Peanut Butter, JIF™ (1 T)	Coconut Meat, raw *
Mixed nuts, with peanuts	Pistachio nuts, raw	Flax seed *
Peanut butter, generic (2T)	Walnuts, English	Pumpkin and squash seeds, dried
Peanuts		Sunflower seeds
Pecans		

Group 2 - HIGH 26 - 99mg per serving	Group 3 - MODERATE 10 - 25mg per serving	Group 4 - LOW 5-10mg per serving *Less than 5mg per serving
VEGETABLES - ½ cup serving (unless indicated otherwise)	VEGETABLES - ½ cup serving (unless indicated otherwise)	VEGETABLES - ½ cup serving (unless indicated otherwise)
Okra, cooked	Beans, baked	Artichokes, boiled
Collard greens, cooked	Beans, kidney, cooked	Asparagus, cooked *
Greens, mustard	Beans, pinto, cooked	Avocado, fresh *
Potato, French fries (medium - 4oz)	Carrots, cooked	Beans, lima, cooked
Potatoes, fried	Carrots, raw	Broccoli, raw or cooked
Sweet potatoes, baked	Celery, raw	Brussel sprouts, cooked *
Sweet potatoes, canned	French fries	Cabbage, raw or cooked *
Tomato, canned, paste	Green beans, fresh, cooked	Cauliflower, raw or cooked *
	Potato salad with mayo	Chili Peppers, hot, green, raw
	Potato, boiled, w/o skin (1 medium)	Chives, raw *
	Potato, mashed w/ milk and fat	Coleslaw, with mayo dress *
	Refried beans, cnd, reg or fat-free	Corn, fresh or canned *
	Summer squash, cooked	Cucumber *
	Tomato sauce, no salt added	Garlic, cooked *
	Tomatoes, raw (1 medium)	Green pepper, raw & cooked (¼ cup)
	Tomatoes, red, ripe, canned	Guacamole
	V-8 Juice	Hominy *
	Winter squash	Lettuce, iceberg or romaine *
		Mung beans, sprouted, canned *
		Mushrooms, cooked, boiled *
		Onions, cooked *
		Onions, green, raw *
		Peas, fresh, boiled or canned *
		Peppers, red, raw or cooked *
		Pickles, Crunchy *
		Pumpkin, canned *
		Sauerkraut *
		Squash, zucchini *
		String beans, canned
		Tomato juice
		V-8 Splash ® *
		Water chestnuts, canned *
LEGUMES - ½ cup serving (unless indicated otherwise)	LEGUMES - ½ cup serving (unless indicated otherwise)	LEGUMES - ½ cup serving (unless indicated otherwise)
Beans, chili, cooked	Beans, adzuki, boiled (¼ cup)	Black-eyed peas, cooked *
Beans, black, boiled (¼ cup)	Beans, baked, canned, plain	Garbanzo beans, cooked (¼ cup)
Beans, white, small, boiled (¼ cup)	Kidney beans, boiled	Lentils, boiled
Great northern beans, boiled (¼ cup)	Pinto beans, raw (¼ cup)	Lentil, dried (¼ cup)
Navy beans, boiled (¼ cup)	Refried beans (Pink beans) (¼ cup)	Lima beans, boiled
Pink beans, raw (¼ cup)		Peas, split, boiled
		Refried beans (Pinto beans) (¼ cup)

Group 2 - HIGH 26 - 99mg per serving	Group 3 - MODERATE 10 - 25mg per serving	Group 4 - LOW 5-10mg per serving *Less than 5mg per serving
BREAKFAST CEREALS (note serving size)	BREAKFAST CEREALS (note serving size)	BREAKFAST CEREALS (note serving size)
40% bran ($\frac{3}{4}$ cup)	Oatmeal, cooked (1 cup)	Apple Jacks® *
Cream of wheat (1 cup)	Cocoa Krispies (1cup)	Cheerios ®
Granola ($\frac{1}{3}$ cup)	Oats, raw ($\frac{1}{2}$ cup)	Corn Flakes, ® *
Grits, cooked ($\frac{1}{2}$ cup)		Frosted Flakes® *
Raisin Bran ($\frac{3}{4}$ cup)		Rice Krispies® *
Shredded Wheat ($\frac{3}{4}$ cup)		Special K ®
		Total Cereal® *
		Wheat Chex ®
SOY PRODUCTS (note serving sizes)	SOY PRODUCTS (note serving sizes)	SOY PRODUCTS (note serving sizes)
Chili, meatless made with TVP (1 cup)	Edamame ($\frac{1}{2}$ cup)	Imitation bacon bits (1 T)
Ground meat substitute (3 ounces)	Latte or cappuccino - soy milk (1 cup)	Natto (fermented soybeans) (1 T) *
Hot chocolate - with soy milk (1 cup)	Soy cheese (1 oz)	Soy bacon (1 oz) *
Mocha made with soy milk (1 cup)	Soy crackers (6 medium)	Soy cream cheese (1 T) *
Soy burger - 1 item ($2\frac{1}{2}$ oz)	Soy ice cream ($\frac{1}{2}$ cup)	Soy flour, defatted (1 T)
Soy hot dog or sausage (1 item)	Soy ice cream bar (1 item)	Soy sauce (1 T)
Soy nuts, roasted ($\frac{1}{4}$ cup)	Tofu, cheese (1 oz)	Teriyaki sauce (1 T) *
Soy protein concentrate (1 oz)	Tofu, firm ($\frac{1}{4}$ cup)	
Soy Yogurt (1 cup)		
Soybeans, boiled ($\frac{1}{2}$ cup)		
Soybeans, dry roasted ($\frac{1}{4}$ cup)		
FATS & OILS (any amount)	FATS & OILS (any amount)	FATS & OILS (any amount)
		1000 Island Dressing *
- NONE -	- NONE -	Blue Cheese Dressing *
		Butter, regular and low fat *
		Caesar Salad Dressing *
		Crisco ®, Lard or other shortening *
		French Dressing *
		Italian Dressing *
		Margarine *
		Mayonnaise or Miracle Whip ®
		Ranch Dressing *
		Sour Cream *
		Vegetable Oils - all kinds *

Group 2 - HIGH 26 - 99mg per serving	Group 3 - MODERATE 10 - 25mg per serving	Group 4 - LOW 5-10mg per serving *Less than 5mg per serving
FISH and SEAFOOD	FISH and SEAFOOD	FISH & SEAFOOD - any amount (unless indicated otherwise)
		Bluefish (4 oz)
- NONE -	- NONE -	Clam, canned *
		Clams *
		Cod, cooked *
		Crab, cooked *
		Fish (white), fried w/flour (4 oz) *
		Fish (white), pre-breaded (4 oz) *
		Halibut, baked *
		Lobster *
		Mackerel, baked (4 oz)
		Oysters *
		Salmon, Atlantic, cooked *
		Shrimp *
		Snapper, baked *
		Sole, baked *
		Tuna, canned in oil or water ($\frac{1}{2}$ cup)
		Tuna salad with mayo ($\frac{1}{2}$ cup)
DAIRY & EGGS - 1 cup serving (unless indicated otherwise)	DAIRY & EGGS - 1 cup serving (unless indicated otherwise)	DAIRY & EGGS - 1 cup serving (unless indicated otherwise)
Chocolate or Carob Ice Cream	Chocolate Milk	Butter *
Soy Ice cream - Vanilla	Cream, nondairy, liquid	Buttermilk *
Soy Ice cream - Chocolate ($\frac{1}{2}$ cup)	Rice milk	Cheese, American *
Soy Milk		Cheese, all hard types *
		Cheese, mozzarella *
		Cheese, ricotta ($\frac{1}{2}$ cup)
		Cottage cheese *
		Cream *
		Cream Cheese *
		Custard *
		Eggs or Egg Beaters *
		Frozen Yogurt, Vanilla *
		Half & Half *
		Ice Cream, Vanilla *
		Milk - all kinds *
		Milk Powder *
		Sherbet, Orange *
		Sherbet, Raspberry *
		Sour cream *
		Yogurt with allowed fruits *

Group 2 - HIGH 26 - 99mg per serving	Group 3 - MODERATE 10 - 25mg per serving	Group 4 - LOW 5-10mg per serving *Less than 5mg per serving
MEAT & POULTRY	MEAT & POULTRY	MEAT & POULTRY- any amount (unless indicated otherwise)
		Bacon, Ham and Pork *
- NONE -	- NONE -	Beef, all kinds *
		Bologna *
		Chicken nuggets (6 nuggets)
		Chicken and Turkey, all parts *
		Hotdog wiener & Bratwurst (no bun) *
		Lamb, cooked *
		Liver, beef, pork or chicken (4 oz)
		Luncheon meat, ham or turkey *
		Meatloaf, beef (4 oz)
		Organ meats, other (4 oz)
		Sausage *
SOUP, SAUCES AND GRAVIES (1 cup unless indicated otherwise)	SOUP, SAUCES AND GRAVIES (1 cup unless indicated otherwise)	SOUP, SAUCES AND GRAVIES (1 cup unless indicated otherwise)
Lentil and potato soup	Bean (mixed) soup	Cheese sauce (¼ cup) *
	Black bean soup	Cheese soup
	Clam chowder	Chicken broth, home-prepared *
	Cream of Mushroom	Chicken noodle soup (1 cup) *
	Cream of potato soup	Fish broth *
	Minestrone soup	Gravy, beef, made w/drippings *
	Miso soup	Gravy, turkey, made w/drippings *
	Ramen Noodle Soup	Green pea soup
	Ramen noodle, any flavor, dry (½ pkt)	Hollandaise Sauce *
	Spaghetti /Marinara Sauce (½ cup)	Ketchup, regular (3 T) *
	Vegetable soup w/allowed vegetables	Lentil soup
		Mustard *
		Salsa (1 T) *
		Split pea soup
		Tabasco Sauce, ready-to-serve *
		Tomato soup
		White sauce (¼ cup) *
		Worcestershire sauce (1 T)
SNACKS (note serving sizes)	SNACKS (note serving sizes)	SNACKS (note serving sizes)
	Potato Chips (1 cup or small bag)	Cheese puffs, corn based (1 oz) *
	Wafer w/ P'nut Butter, Choc cover (2 oz)	Corn Chips (1 cup or 1 small bag)
		Fig Bar (1 cookie - 1/2 oz)
		Fruit Cereal Bar (1 item - 1.35 oz)
		Popcorn, with or without fat (1 cup) *
		Pretzels (1 oz or 1 small bag)
		Tortilla Chips (1 cup or 1 small bag)

Group 2 - HIGH 26 - 99mg per serving	Group 3 - MODERATE 10 - 25mg per serving	Group 4 - LOW 5-10mg per serving *Less than 5mg per serving
SPICES & HERBS -1 tsp serving (unless indicated otherwise)	SPICES & HERBS -1 tsp serving (unless indicated otherwise)	SPICES & HERBS -1 tsp serving (unless indicated otherwise)
Poppy seed	Anise seed	Basil, fresh (1 T) *
Turmeric, ground	Black Pepper	Capers, canned (any amount) *
	Caraway seed	Chili Powder *
	Cumin seed	Cilantro (Coriander), raw (9 sprigs) *
	Curry powder (McCormicks)	Cinnamon, ground
		Dill weed, fresh *
		Garlic powder (any amount) *
		Garlic, raw (any amount) *
		Garlic, raw (any amount) *
		Ginger root, raw *
		Ginger, ground
		Horseradish, prepared *
		Marjoram, dried *
		Mustard seed, yellow *
		Nutmeg, ground *
		Onion powder (any amount) *
		Oregano, dried
		Oregano, dried (leaves) *
		Parsley, fresh
		Pepper, red or cayenne
		Pepper, white *
		Peppermint, fresh *
		Rosemary, fresh *
		Saffron *
		Sage, ground *
		Savory, ground (any amount) *
		Tarragon, dried (any amount) *
		Thyme, dried *
		Vanilla extract (any amount) *
		Vinegar, distilled (any amount) *
MISCELLANEOUS (note serving sizes)	MISCELLANEOUS (note serving sizes)	MISCELLANEOUS - any amount (unless indicated otherwise)
	Chocolate Syrup (1 T)	Baking powder and baking soda*
		Balsamic Vinegar (1 T)
		Sugar, brown and white *
		Cream of tartar *
		Honey *
		Jelly or Jam, with allowed fruits *
		Pancake Syrup *
		Salt *
		Yeast, baker's, dry (1 packet - ¼ oz)

Group 2 - HIGH 26 - 99mg per serving	Group 3 - MODERATE 10 - 25mg per serving	Group 4 - LOW 5-10mg per serving *Less than 5mg per serving
MIXED MEALS (1 cup unless indicated otherwise) Calculated using ingredients from Group 2-4 only	MIXED MEALS (1 cup unless indicated otherwise) Calculated using ingredients from Group 2-4 only	MIXED MEALS (1 cup unless indicated otherwise) Calculated using ingredients from Group 2-4 only
Beef Stew with potato	Chicken casserole - creme sauce	Bacon, Egg & Cheese Biscuit (1 item)*
Burrito, bean, cheese (1 item ~ 5oz)	Chili, homemade with beef and beans	Enchilada or taco sauce ($\frac{1}{4}$ cup) *
Chicken, pot pie	Chili, homemade meatless	Fried rice with meat, poultry or fish
Chili, meatless with TVP	Chow mein, chicken	Hamburger & Bun, plain (1 sandwich)
Lasagna w/meat, wholewheat (11 oz)	Enchilada, chicken (1 serving ~ 7oz)	Lamb, curried (no vegetables) *
Tamales with meat (1 item ~ 4 oz)	Lasagna, homemade with meat sauce	Meatloaf-ground beef (1 slice - 4oz)
Tofu and Broccoli Stir Fry	Macaroni and cheese, boxed	Quesadilla (medium ~ 2oz)
	Macaroni and cheese, homemade	
	Macaroni salad w/ mayo ($\frac{1}{2}$ cup)	
	Pad thai, vegetarian	
	Pizza, Cheese ($\frac{1}{4}$ of a 12" pizza)	
	Pizza, meat ($\frac{1}{4}$ of a 12" pizza)	
	Pizza, allowed vegs ($\frac{1}{4}$ of a 12" pizza)	
	Quesadilla, cheese (1 item ~ 5.1oz)	
	Taco, beef, cheese (1 item ~ 4oz)	
	Tostada, beans & cheese (1) 6oz	

SOURCES

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