



Soy flour, derived from ground soybeans, boosts protein, brings moisture to baked goods, and provides the basis for some soymilks and textured vegetable protein. This versatile ingredient improves taste and texture of many common foods and often reduces the fat absorbed in fried foods. The taste of soy flour varies from a “beany” flavor to a sweet and mild flavor, depending on how it is processed.

Soy Flour

IN THE MARKET

Soy flour comes in small bags in the baking or natural foods section of supermarkets. In natural foods markets, health food stores, food cooperatives, and food buying clubs, soy flour is often found in bulk bins. Many customers order soy flour through mail order houses and on-line shopping.

Most stores carry at least one of the three types of soy flour:

- full-fat that contains all the natural oils found in the soybean
- low-fat that contains about 1/3 the amount of fat as full-fat, and
- defatted that contains minimal fat as most of the oil is removed during processing.

RETAIL SUPPLIERS

Soy Flour is commonly added to other food products, but is available retail too.

Dixie USA, Inc – Defatted soy flour (mail order)

GIVE ME FIVE

1. Make a batch of homemade pizza dough and replace one-fourth of the flour with soy flour.
2. Make soy nut butter or peanut butter cookies and replace 1/3 of the all-purpose flour with soy flour.
3. Make antioxidant-rich blueberry muffins and pancakes more whole grain: use 1/3 soy flour, 1/3 whole wheat flour and 1/3 all-purpose flour.
4. Make lemon poppy seed, zucchini, or banana walnut bread and replace 1/3 of the all-purpose flour with soy flour.
5. Bake a nutrient-packed carrot cake with pineapple, raisins and walnuts and use replace 1/3 of the all-purpose flour with soy flour.

IN THE KITCHEN

Storing and Cooking Tips for Soy Flour:

- Kept in an airtight container, defatted and low-fat soy flour will stay fresh for up to one year. Full-fat soy flour will keep for up to one year in an airtight container in the freezer.
- Kept Stir soy flour before measuring to avoid flour packing.
- Kept Watch baked goods closely for over-browning. Baking products in a lower temperature oven (less 25° F) may prevent browning.

Full-fat and low-fat soy flours work best in sweet, rich, baked goods like cookies, soft yeast breads and quick breads. In these recipes, soy flour will substitute well for ten to 30 percent of the wheat or rye flour. Recipes specifically developed to use soy flour may replace more than 30 percent of other flours with soy. Replacing more than 40 percent of other flours with soy flour is not recommended because soy-rich dough browns faster. Since soy flour is gluten-free, it cannot replace all the wheat or rye flour in yeast raised bread. Soyfood cookbooks, soy flour packages, and company web sites supply tasty recipes.

NUTRITION HIGHLIGHTS

Soy flour is a great source of high quality soy protein, dietary fiber and important bio-active components, such as isoflavones. This versatile ingredient

provides a good source of iron, B vitamins and potassium. Important bio-active components found naturally in soybeans are being studied in relation to relieving menopausal symptoms, such as hot flashes, maintaining healthy bones, and preventing prostate, breast cancers, and colorectal cancer. The content and profile of bio-active components varies from product to product, depending upon how much soy protein is in the food and how the soy protein is processed.

Soyfoods are a healthy protein source because of the high quality of protein that contains all essential amino acids needed for growth. Soyfoods are a good source of essential fatty acids and contain no cholesterol and little or no saturated fat. This comparison of the protein content of several flours indicates the high protein content of soy flours in

relation to wheat flours*:

- Full-fat soy flour 40 % protein
- Low-fat soy flour 52 % protein
- Defatted soy flour 55 % protein
- Whole wheat flour 16 % protein
- Enriched white flour 12 % protein

* approximately

In addition to the excellent nutritional value of soy protein, scientists have found that consumption of soy protein can contribute to reducing the risk of heart disease by lowering blood cholesterol and increasing the flexibility of blood vessels. The FDA has approved a health claim stating that “25 grams of soy protein in a daily diet low in saturated fat and cholesterol can help reduce total and LDL cholesterol that is moderately high to high.”

Nutrition Facts 1/4-cup serving of soy flour provides						
	Defatted	% Daily Value	Full Fat1	% Daily Value	Low Fat	% Daily Value
Calories	82		92		82	
Total Fat	0g	0%	4g	6%	1.5g	2%
Saturated Fat	0g	0%	0.5g	3%	0g	0%
Total Carbohydrates	10g	3%	7g	2%	8g	3%
Protein	12g	24%	7g	14%	10g	20%
Cholesterol	0mg	0%	0mg	0%	0mg	0%
Sodium	5mg	0%	3mg	0%	4mg	0%
Dietary Fiber	5g	18%	2g	8%	2g	8%
Calcium	60mg	6%	43mg	4%	41mg	4%
Potassium	596mg	17%	528mg	15%	565mg	16%
Phosphorus	168mg	17%	104mg	10%	130mg	13%
Folate	76mcg	19%	72mcg	18%	90mcg	23%
Source: USDA National Nutrient Database for Standard Reference, Release 17 (2004)						
Average Total Isoflavones	33mg		37 mg		50 mg	
Source: USDA -Iowa State University Database on the Isoflavone Content of Foods, Release 1.3, 2002, USDA Nutrient Data Laboratory Agricultural Research Service						
Exchanges: 2 tbs. = 1 lean meat/ meat substitute						
Based on information from Exchange List for Meal Planning, 2nd edition, 2002.						

THE MAKING OF SOY FLOUR

A wide array of meat alternatives, dairy alternatives, and baked goods use various forms of soy flour. Soy flour is a product of milling soybean flakes that have either retained the soybean's naturally occurring oil to make full fat flour or solvent-extracted the oil to make de-fatted flour. To make low-fat soy flour, a mechanical extractor process removes about 75% of the oil. Newer technologies extract oil from soy flour using high pressure carbon dioxide or other liquids. Full fat and de-fatted flour products appears in enzyme active or toasted forms and in different particle sizes from ultra fine powders (i.e., soy flour) to more coarse soy grits. Further processing soy flour produces dry textured nuggets called textured soy flour.