

eggproduct

American Egg Board



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Buyers' Guide

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The term egg products refers to processed and convenience forms of eggs for commercial, foodservice, and home use. These products can be classified as dried, frozen, refrigerated liquid, and specialty products. Egg Products are widely used as ingredients in many food products because they provide certain desirable functional attributes.

The American Egg Board's Egg Product Buyers' Guide has been updated to provide the latest and most accurate listing of U.S. Egg Product Suppliers and the products they produce. This publication is designed to help you identify and locate the type of egg product(s) you require. The sections are color-coded for quick reference.

A new addition to the guide is a section containing nutrient values and typical specifications for egg products. In this section you'll discover the many valuable nutrients contained in egg products, reference data and much more.

The first large section of the Buyers' Guide contains an alphabetical listing of further processors by egg product category and is divided into three subsections. A blue border will represent Dried Product suppliers, red the Frozen Product suppliers, and the green the Refrigerated Product suppliers.

The main section of the Buyers' Guide is bordered in yellow and contains an alphabetical listing of further processors by company name. The contact person(s), address, phone numbers, fax number, email address (if available), website, products available and distribution area are listed for each further processor.

This Buyers' Guide is specifically made available for food manufacturers, bakeries, foodservice operators, and exporters to easily obtain the product and company information to meet their purchasing requirements. This listing is also available on the internet at www.aeb.org in the Food Manufacturers section.

The information contained in this Buyers' Guide was provided by U.S. further processors and may not be a complete listing.

BENEFITS

Egg products can be used interchangeably without affecting formula weight. However, some ingredient quantities may need to be adjusted depending on the egg product used and whether or not added ingredients are included, e.g., reduce sugar in a cake formula if an egg product containing sugar is used to replace whole eggs.

EASE OF USE	Egg products are ready to use immediately, e.g., specialty products such as diced hard-cooked eggs that are ready to serve in salad bars.
PREPARATION CONVENIENCE	Ready-to-use egg products just need to be measured for use — many egg products even come premeasured. Bulk quantities may be ordered and ingredients weighed and incorporated into formulas with less labor. Equipment needs are minimal, cleanup is simplified, and except for packaging materials, there is no waste for disposal. Egg products are also easy to order in bulk quantities.
ECONOMY	Reduced handling, minimal shipping cost, and elimination of breakage result in reduced-cost formulations. Egg products are one of the most economical protein sources available.
SIMPLE HANDLING REQUIREMENTS	Egg products are easy to handle, both in distribution and food manufacturing processes.
SAFETY	Egg products are pasteurized to destroy <i>Salmonella</i> and other bacteria.
MINIMAL STORAGE SPACE	A 100-lb. drum of dried egg white solids is equivalent to the whites from about 28 cases (360 large shell eggs per case) of shell eggs. 100 lb. of dried whole egg solids are equivalent to about 10 cases of large shell eggs. A 30-lb. can of frozen eggs is equivalent to about 22 dozen large shell eggs.
UNIFORMITY	Egg products can be produced to definite specifications to assure consistent performance in formulations.
STABILITY	When properly stored according to their type, egg products will keep their quality over several months.
QUALITY	Most egg products are virtually indistinguishable from fresh eggs in nutritional value, flavor, and most functional properties. These qualities are well retained during proper storage.

DRIED EGG PRODUCTS

USAGE	Ingredient for foodservice and commercial food processing.
AVAILABILITY	Foodservice — 6-oz. pouches, 3- and 25-lb. polypacks Commercial — 25- and 50-lb. boxes, 150-, 175-, and 200-lb. drums
ADVANTAGES	Long shelf life, stable, and easily mixable.
PROCESSING OVERVIEW	<p>Shell eggs are washed, rinsed, sanitized, candled, broken, separated by automation, and monitored for quality and imperfections.</p> <p>Liquid whole eggs and yolks are clarified, filtered, and pasteurized using high-temperature, short-time (HTST) pasteurization equipment. After pasteurization, they are spray dried.</p> <p>The separated egg whites and egg yolks from the same production batch may be recombined in their entirety and identified as whole eggs.</p> <p>Egg whites are treated prior to drying to remove naturally occurring glucose and preserve color once dried, resulting in stabilized egg whites for longer storage. Glucose is sometimes removed from whole egg and yolk products for long storage stability.</p> <p>Egg whites are more sensitive to heat coagulation. They are clarified, filtered, glucose removed, and spray dried prior to pasteurization in a “hot room” maintained at a temperature of at least 130°F (54°C) for a minimum of seven to ten days. Industry practice often exceeds the required pasteurization regulations — pasteurized at a higher temperature — to improve gel strength. This assures elimination of <i>Salmonella</i> if the moisture content of egg solids is kept at approximately 6%. The whipping ability of egg whites also improves when stored in the hot room at low moisture levels.</p>
ADDED INGREDIENTS	<p>Sugar (sucrose), or glucose-free corn syrup are sometimes added, according to supplier’s specifications, sodium silicoaluminate is sometimes added as an anti-caking agent to assure a free-flowing product.</p> <p>Whipping additives like sodium lauryl sulfate may be added to dried egg whites at a level of less than 0.1% (by weight of the liquid prior to drying) to assure whipping ability and aeration properties.</p> <p>Carbohydrates can be added to increase the egg’s resistance to heat damage, e.g., less protein denaturation during drying and improve stability and flowability of dried egg products.</p>
STORAGE & HANDLING	Store dried eggs as any other dried, powdered food in a cool, dark place. Once reconstituted, use immediately or store refrigerated for no more than four days.



PRODUCTS

- Whole eggs or yolk solids
- Dried egg or scrambled egg mix
- Egg whites
- Free flowing whole eggs or yolk solids
- Stabilized (glucose-free) whole eggs or yolk solids
- Blends of whole eggs and/or yolk with carbohydrates

FROZEN EGG PRODUCTS

USAGE	Ingredient for commercial food processing.
AVAILABILITY	30-lb. container and 4-, 5-, 8-, 10-lb. pouches or waxed cartons, and plastic pails up to 40 lb.
ADVANTAGES	Long shelf life, stable, and mixable.
PROCESSING OVERVIEW	<p>Shell eggs are washed, rinsed, sanitized, and candled, then broken, monitored for quality and imperfections, and yolks separated from whites by automation. Separation is not necessary if whole eggs are being processed. Egg products are then clarified, filtered, pasteurized and filled into containers and frozen at -10° to -40°F (-23.3° to -40°C).</p> <p>Egg yolks and whole eggs generally must be mixed with sugar, salt, or other edible ingredients such as corn syrup, phosphates, or other carbohydrates, to prevent gelation (increased viscosity) caused by the lipid portion of the lipoproteins in the freeze-thaw cycle. (When the protein molecules interact with each other upon thawing, they form insoluble aggregates that make thawed yolks gel-like and gummy.)</p> <p>Gelation of the yolk or whole egg may be prevented by homogenization and the addition of about 10% sucrose or sodium chloride prior to freezing. Some egg white products contain an ester-type whipping agent such as triethyl citrate.</p>
ADDED INGREDIENTS	Citric acid may be added to some yolk or whole egg products to prevent greening.
STORAGE	<p>Stored at 0° to -5°F (-17.8° to -20.6°C) frozen eggs can be held for years.</p> <p>Defrost only as much as needed, in unopened containers, in refrigerator or under cold running water. Use defrosted product immediately.</p> <p>With extended storage, some physical changes like coagulation of certain protein fractions of egg whites or gelation of the yolk, may occur.</p> <p>Frozen eggs cannot be refrozen once thawed. Store thawed eggs at the coldest possible refrigerator temperature (35° to 40°F, 1.7° to 4.4°C) for no longer than three days.</p>



PRODUCTS

- Whole eggs, whites, or yolks
- Scrambled egg mix
- Salted whole eggs or yolks
- Sugared egg yolks
- Whole eggs with yolks and corn syrup
- Whole eggs with citric acid
- Whole eggs with corn syrup
- Various blends

REFRIGERATED LIQUID EGG PRODUCTS

USAGE	Ingredient for foodservice and commercial food processing.
AVAILABILITY	Bulk tank trucks, totes, metal or plastic containers, polyethylene-coated fiber or laminated-foil and paper cartons, and hermetically-sealed polyethylene bags. Container size from small bags to cartons (8 oz. to 5 lb.), intermediate-size bag in boxes and pails (20 to 40 lb.) and larger drums and totes (200 to 3,500 lb.).
ADVANTAGES	Pasteurized, quick and easy to use.
PROCESSING OVERVIEW	<p>Shell eggs are washed, rinsed, sanitized, and candled, then broken, separated by automation, and monitored for quality and imperfections.</p> <p>Egg products are then filtered, pasteurized, and packaged.</p> <p>Custom blends (specified egg solids content or added ingredients) are available.</p>
STANDARDS OF IDENTITY	<p>Whole eggs are a combination of pasteurized egg whites and egg yolks from the same production batch blended together in their entirety, in natural proportions.</p> <p>Egg products produced by combining egg whites and egg yolks from different production batches cannot be labeled as whole eggs. These products must be identified with an ingredient statement showing the contents of the product as egg whites and egg yolks.</p>
EXAMPLES OF ADDED INGREDIENTS	Sugar, corn syrup or salt may be added to yolk or whole egg products. Refrigerated egg whites may have triethyl citrate added as a whipping aid.
STORAGE & HANDLING	After opening, liquid eggs should be kept refrigerated at 35° to 40°F (1.7° to 4.4°C) maximum at all times and consumed within two to six days from date of purchase. Once opened, use immediately.

PRODUCTS

Whole eggs, whites, or yolks

Sugared egg yolks

Salted whole eggs or yolks

Scrambled egg mix

Extended shelf life whole eggs, whites, yolks, or scrambled egg mix



SPECIALTY EGG PRODUCTS

DICED HARD-COOKED, PEELED EGGS	Refrigerated in a dry-pack or cryogenically frozen through exposure to extremely low temperatures for a short time, e.g., nitrogen flushing. Used by salad bars in restaurants.
REFRIGERATED WHOLE HARD-COOKED, PEELED AND UNPEELED EGGS, PLAIN OR PICKLED, WEDGED, SLICED, OR CHOPPED	Mechanically or hand-peeled and either packed in a liquid solution of 0.1% sodium benzoate or potassium sorbate (mold inhibitors) and an organic acid (usually citric acid) or packaged in an altered environment with inert nitrogen to extend shelf life.
FROZEN OMELETS AND QUICHE MIXES	These were originally developed by the military, but are now convenient for the foodservice operator.
FROZEN SCRAMBLED EGG MIX IN BOILABLE POUCHES	Used by campers because they are easy to transport and store.
FREEZE-DRIED PRECOOKED SCRAMBLED EGG MIX	Egg patties, fried eggs, crêpes, scrambled eggs, egg pizza, plain or filled omelets, French toast, quiches, and egg breakfast sandwiches.
OTHER FROZEN PRECOOKED	Pasteurized liquid egg aseptically packaged for extended refrigerated shelf life.
ULTRA-PASTEURIZED	Pasteurized liquid egg aseptically packaged for extended refrigerated shelf life.

PRODUCT EQUIVALENCY

	Frozen Product (LB.)	Shell Egg* (No.)	Egg Solids (LB.)
Whole	1	9	0.25 solids + 0.75 water
Yolks	1	22	0.45 solids + 0.55 water
Whites	1	14	0.12 solids + 0.88 water

* Based on 61g shell egg (25.8 oz. per dozen) yielding 53g whole, 21g yolk, & 32g white per egg.

DRIED EGG PRODUCTS

- Blends of whole egg and/or yolk with carbohydrates (sugar or corn syrup added)
- Cage-free products
- Dried egg mix
- Egg yolk solids
- Enzyme modified egg yolks
- Enzyme modified whole egg solids
- Free-flowing egg yolk solids (with free-flow agent added)
- Free-flowing whole egg solids (with free-flow agent added)
- High-gel egg white solids
- High- whip egg white solids
- Instant egg white solids
- Kosher products
- Organic products
- Pan dried albumin
- Scrambled egg mix
- Spray-dried egg white solids
- Stabilized (glucose-free) egg yolk solids
- Stabilized (glucose-free) whole egg solids
- Whole egg solids

FROZEN EGG PRODUCTS

- Cage-free products
- Chopped hard-cooked eggs
- Cook-in-bag scrambled eggs
- Cooked scrambled eggs
- Egg patties
- Egg whites
- Egg yolks
- Enzyme modified egg yolks
- Filled omelets
- Fried eggs
- High-gel egg whites
- High- whip egg whites
- Kosher products
- Organic products
- Plain omelets
- Quiche mix
- Salted egg yolks
- Salted whole eggs
- Scrambled egg mix
- Sugared egg yolks
- Whole eggs
- Whole eggs and yolks w/corn syrup
- Whole eggs w/citric acid
- Whole eggs w/corn syrup
- Whole eggs w/yolk added

REFRIGERATED EGG PRODUCTS

- Cage-free products
- Chopped hard-cooked eggs
- Chopped hard-cooked egg whites
- Cooked scrambled eggs
- Deviled eggs
- Egg whites
- Egg yolks
- Enzyme modified egg yolks
- Extended shelf life egg whites
- Extended shelf life egg yolks
- Extended shelf life scrambled egg mix
- Extended shelf life whole eggs
- High- whip egg whites
- Kosher products
- Organic products
- Pickled whole hard-cooked eggs
- Salad grade hard-cooked eggs
- Salted egg yolks
- Salted whole eggs
- Scrambled egg mix
- Sugared egg yolks
- Unpeeled hard-cooked eggs
- Whole eggs
- Whole eggs w/citric acid
- Whole eggs w/yolk added
- Whole hard-cooked peeled eggs