

FACTS ABOUT TRANSGLUTAMINASE

Information circulating on the Internet has raised questions about something called transglutaminase or “TG,” which some have mischaracterized as “meat glue.” Below are questions and answers aimed at clarifying why TG is used, how it is labeled and why it is safe.

What is transglutaminase?

Transglutaminase (TG) is an enzyme that occurs naturally in plants, animals and in the human body. Enzymes are proteins commonly used in food for many different purposes. Papaya, for example, contains an enzyme, papain, that is used to tenderize meat. In the case of TG, it is used widely in a variety of foods – not just meat – to bind proteins together.

How is it regulated?

TG is “generally recognized as safe” or GRAS by the Food and Drug Administration (FDA). The United States Department of Agriculture (USDA) has determined that TG is safe and suitable for use in meat products. TG may be added to meat products to improve texture or to bind meat cuts together, but may not be used at levels exceeding 65 parts per million (ppm) of the total product weight – a miniscule amount.

Is it safe?

Yes. The fact that TG has FDA’s GRAS status shows that it has a long history of safe use. It is also approved by the USDA for use in meat products.

How is TG used in food production?

TG is used to improve the texture of certain foods, to shape and form protein foods together to make novel new foods or to aid in portion control. TG can thicken egg yolks, strengthen dough mixtures, thicken dairy products and improve yield in tofu production. Meat is just one of many foods in which TG can be used.

Above is a bacon wrapped filet. The enzymes in TG bond the proteins in the bacon and the tenderloin together.

Above are two tenderloins, commonly cone-shaped, laid on top of one another in opposite directions. The enzymes in TG can bond the proteins in the two tenderloins together to create a uniform size for slicing. Uniformity is prized in a foodservice setting.



How is TG used in meat production?

TG is most commonly used in meat products that are destined for food service. An excellent example is a bacon-wrapped filet mignon. Rather than use toothpicks to hold bacon in place, TG can be used to bond the bacon to the meat.

Another example of TG’s value is in making uniform tenderloins. Tenderloins by their nature are shaped like a cone with a pointier end and a thicker end. By laying tenderloins on top of one another going in opposite directions and using TG, two tenderloins can be made into a larger, cut of meat with a uniform diameter. When serving large groups of people in restaurants or hotels, a uniform portion size is prized, TG helps make two uneven tenderloins into one that is uniform.

Is TG labeled?

Yes. When a product contains TG, “transglutaminase” must be listed in the ingredient statement. A product that uses TG also will say “formed” or “shaped” on the label.

Do chefs use TG to prepare meat or other foods?

Some chefs may use TG to make certain creative entrees like fresh bacon wrapped filets or shrimp wrapped asparagus, for example.

How do I know if a food I’m eating in a restaurant or banquet hall has been prepared with TG?

When consumers dine out, they typically have less ready access to labeling information about many things, from nutrition to the country of origin. The important thing to remember about TG is that it has been approved by FDA and USDA as safe for use, all meat products that may contain in are inspected and passed as safe. Products that are sent to foodservice that use TG will be labeled, so the restaurant should be able to tell a customer if a product has used TG. Restaurants also should be able to tell customers if a chef has used TG in the kitchen on a meat product to prepare a novel or creative entrée.

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