IDENTIFICATION OF FOOD ADDITIVE E -CODES REPRESENTING SWINE FAT DERIVATIVES /Article Review

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ABSTRACT

A review of Europe–codes (E-codes) label on the package of product is required to verify the food additives in the product come from an animal, a plant or synthetic substance and to avoid food items containing swine fat derivatives.

INTRODUCTION

The primary choice for meat in all the western countries including Europe is pork. In western countries, there are more than 42,000 farms that breed swine. Swine have the highest percentage of fat in their body than other animals. In swine body, there fat are subcutaneous and intramuscular. Swine fat was purchased by manufacturing companies to improve food products. However, Swine's fat derivatives are prohibited for Muslims because swine is unhealthy and harmful for human beings.

Europe–codes (E-codes) are specific numbers have been used in food industry to identify food additives. They are usually found on the package of the products. Color, preservatives, antioxidants, thickeners, emulsifiers, flavors, and sweeteners are the common food additives added to improve taste, appearance, texture, and extended the shelf-life. Color is added to make food look more attractive, preservatives are added to prevent or inhibit the growth of

microorganisms, antioxidants are added to protect the food from oxygen, thickeners are added to increase the mixture viscosity, emulsifiers are added to keep products as emulsion phase, stabilizers are added to give foods a firmer texture, and flavors are added to food to improve taste or smell and sweeteners. All food additives might be synthetic substances or substances derived from plants or animals.

The manufacturers may only give accurate information whether the food additive in the product is from an animal, a plant or synthetic substance. So, the main objective of this article is to detect the food additives numbers which there are sources from swine fat derivatives.Classification of E-numbers according to food additive is shown in Table 1.

Table 1: Classification of E-numbers codes

Number	Description
E100-E199	Color additives
E200-E299	Preservatives
E300-E399	Antioxidants
E400-E499	Thickeners, emulsifiers, and stabilisers
E500-E599	Acidity regulators and anti-caking agents
E600-E699	Flavor enhancers
E900-E999	Sweeteners, surface coating agents and the gases
E1000-E1999	Additional chemicals

The common food items containing swine fat derivatives are bagels and bread products, butter, yoghurt, cream cheese, doughnut, cake, marshmallow, cereal, candy, chocolate, coffee mate, biscuit, Potato chips, puddings, ice cream, chewing gum, and fruit juice. Muslim and vegetarians should look at the list below to avoid food items containing swine fat derivatives (Table 2).

Table 2: E-numbers and additives are from swine fat derivatives

Color Additives		
E-Number	**Name**	**Source**
E100	Curcumin	Might swine fat is used as hidden ingredient based emulsifier in dry mix
E132	Indigo Carmine/Idigotine	Might swine glycerin is added as a solvent
E160a	Alpha, Beta, and Gamma	Might be glycerin from swine origin
E161b	Lutein	Might swine gelatin or swine glycerin is added in dry or liquid form
Antioxidants		
E-Number	**Name**	**Source**
E304	Ascorbyl palmitate	Might palmitic acid is obtained from swine fat
E306	Natural extracts rich in tocopherols	Might Tocopherol is obtained from swine fat
E320	Butylated Hydroxyanisole (BHA)	Might the carrier is from swine fat
E321	Butylated Hydroxytoluene (BHT)	Might the carrier is from swine fat
Thickeners, emulsifiers, stabilisers		
E-Number	**Name**	**Source**
E422	Glycerol	Might glycerin from swine fat
E430	Polyoxyethane (8) Stearate	Might glycerin from swine fat
E431	Polyoxyethane (40) Stearate	Might glycerin from swine fat
E432	Polyoxyethane (20) Sorbitan / Polysorbate 20	Might glycerin from swine fat
E433	Polyoxyethane (20) Sorbitan Mono-oleate / Polysorbate 80	Might glycerin from swine fat
E434	Polyoxyethane (20) Sorbitan	Might glycerin from swine fat

	Monopalmitate / Polysorbate 40	
E435	Polyoxyethane (20) Sorbitan Monostearate / Polysorbate 60	Might glycerin from swine fat
E436	Polyoxyethane (20) Sorbitan Tristearate / Polysorbate 65	Might glycerin from swine fat
E470	Fatty Acids	Might be from swine fat
E471	Mono-and Diglycerides of Fatty Acids	Might be from swine fat

Thickeners, emulsifiers, stabilisers		
E-Number	**Name**	**Source**
E472	Various Esters of Mono-and Diglycerides of Fatty Acids	Might be from swine fat
E473	Sucrose Esters of Fatty Acids	Might be from swine fat
E474	Sucroglycerides	Might be from swine fat
E475	Polyglycerol Esters of Fatty Acids	Might be from swine fat
E476	Polyglycerol Esters of Polycondensed Esters of Caster Oil	Might glycerin from swine fat
E477	Propane-1,2-Diol Esters of Fatty Acids	Might be from swine fat
E478	Lactylated Fatty Acid Esters of Glycerol and Propane-1,2-Diol	Might glycerin from swine fat
E481	Sodium Stearoyl-2-Lactylate	Might be from swine fat
E482	Calcium Stearoyl-2-Lactylate	Might be from swine fat
E483	Stearyl Tartrate	Might be from swine fat
E491	Sorbitan monostearate	Might be from swine fat
E492	Sorbitan Tristearate	Might be from swine fat
E493	Sorbitan monolaurate	Might be from swine fat
E494	Sorbitan monooleate	Might be from swine fat
E495	Sorbitan monopalmitate	Might be from swine fat
E496	Sorbitan trioleate	Might be from swine fat
Acidity regulators and anti-caking agents		

E-Number	Name	Source
E570	Fatty acids/Stearic acid	Might be from swine fat
E572	Magnesium stearate	Might be from swine fat
E573	Aluminium stearate	Might be from swine fat
Flavor enhancers		
E-Number	**Name**	**Source**
E621	Monosodium Glutamate (MSG)	Might be from swine fat
E622	Monopotassium Glutamate	Might be from swine fat
E623	Calcium Glutamate	Might be from swine fat
Sweeteners, surface coating agents and the gases		
E-Number	**Name**	**Source**
E907	Refined Microcrystalline Wax	Might be from pork fat wax

In conclusion, all consumers need to look at the contents of the food items and compare it with the above list of E-codes. If any of the contents listed above is found and the manufacturers did not give accurate information whether the food additive in the product comes from an animal or a plant and did not mention suitable for vegetarian label on the package of product, the product should be avoided by Muslims and vegetarians.

تمييز ألاضافات الغذائية التي تمثل مشتقات دهن الخنزير عن طريق الرمز- E

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الخلاصة

يتطلب من قبل المستهلك مراجعة الرمز E المثبت في ملصق المنتج للتحقق من مصدر الاضافات الغذائيه في المنتج فيما اذا كان حيواني، نباتي او مادة مصنعة ولتجنب المنتجات الغذائية التي تحتوي على مشتقات دهن الخنزير.

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