



The maximum limits for residues of ethyl alcohol (Ethanol) in food

Reference: GSO 2538:2017

1- General principles and requirements:

- 1.1 Alcohol (Khamr). The word Khamr refers to all kinds of intoxicating drinks, whether it existed in the past or exists at present or will exist in the future, and whether the drink is made from grapes, barley, dates, corn or anything else. Khamr is Najs. Anything that is intoxicating is considered Khamr.
- 1.2 All products or ingredients containing alcohol (Khamr) are prohibited in Islam, even for cooking purpose or in filling for candies.
- 1.3 It is not permissible to add Khamr to any food, drink or food preparation as this will be seen as contaminating the food with a prohibited substance.
- 1.4 The type of alcohol may not be deriving from the alcoholic beverage (Khamr) industry or physically separated. It can, however by chemically separated if approved upon.
- 1.5 Ethanol is not necessarily Khamr although the intoxicating substance in Khamr is ethanol. Ethanol produced by non Khamr industry is not Najs.
- 1.6 Ethanol (Ethanol) is present in a wide range of foods in very small amounts due to natural fermentation known as alcoholic fermentation or as a result of the use of some flavorings and concentrates used in the manufacture of food. Ethanol is used in other components as a volatile solvent mostly when exposed to heat.
- 1.7 The presence of ethyl alcohol in food for any reason is one of the issues affecting faith in Islam, where it is prohibited to tamper with or tamper with it in any way. The official legal authorities and the concerned authorities may take all necessary measures, measures and decisions to ensure compliance with the principles and assets. Legitimacy and the application of what is appropriate and according to each case and in order to achieve the legitimate objectives.
- 1.8 The identification of specific percentages of the presence of ethyl alcohol (ethanol) in food is not about the safety or quality of the product but the halal requirements of Islamic law, have been working on this issue following the adoption of the standard the legitimate authorities in the Gulf.
- 1.9 Ethanol content resulting from natural fermentation of naturally occurring ingredients in the product shall not exceed those specified in Table (1). The contents of the table shall be approved for the acceptance or rejection of food products. Alcohol, alcohol and alcohol Ethanol (Ethanol) during manufacturing.
- 1.10 Artificial and natural flavors, colors and some type of meat or vegetable bases may contain alcohol products used to carry the flavor. The level of alcohol in the final product should be below 0.5% to be acceptable.
- 1.11 Cordials which contain any flavoring substances with a certain amount of alcohol added as a stabilizer for the purpose as a drink, is allowed on the condition that the alcohol is not derived from 'Khamr (intoxicating alcoholic beverage) production and the quantity of alcohol in the flavor is small (insignificant) such that it will not intoxicate. Allowable limit is 0.5 % in finished product and Not visible, not testable, not sellable.
- 1.12 Vinegar, a by-product of derivative of alcohol, is permitted in Islam but it is advisable not to use the words "wine vinegar" in order not to confuse consumers.
- 1.13 Vinegar produced without intervention (natural process) and with proper air ventilation is halal. Yeast separated from Khamr and washed to remove taste, smell and color of Khamr is halal.
- 1.14 Use of alcohol in flavor:
 - 1.14.1 As solvent/ Carrier In diluent portion facilitates the inclusion of several coloring, flavoring and/or aromatic compound
 - 1.14.2 As flavoring agent in flavor portion to enhance the flavor impression and its acceptability particularly the expression of top note
 - 1.14.3 In extraction particularly of citrus/ essential oil Alter the miscibility property from oil to aqueous phase
 - 1.14.4 Propylene glycol can be a suitable alternative to ethanol as a solvent and carrier for flavor compounds. In the extraction of essential oils, ethanol can result in a wider selection of flavor notes. This is the area that will matter most if ethanol is selected as a solvent in the extraction process.

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- 1.15 Alcoholic byproducts can be used if those materials/products have been reacted further to produce new compounds through chemical or biotransformation reactions (using enzymes or microbes).
- 1.2 In some cases, the additives used in ethanol may be used as an irreplaceable solvent in the manufacture, but the amount of ethyl alcohol in the final product shall not exceed the limits specified in Table 1.

Table (1): Maximum permissible limits for the effects of ethyl alcohol (ethanol)

Product group/Food type	The permissible percentage of ethyl alcohol (ethanol) resulting from natural transverse fermentation. ¹
Grape Vinegar	< 1% s/s
All vinegar varieties except grape vinegar	< 0.5% s/s
Sauces, ketchup (all kinds), beverages / concentrated juices, concentrates, food mixes prepared for manufacturing Aromatic herbs oils	< 0.5% s/s or s/w
Juices including nectars, cocktails, beverages of all kinds, shapes and water, ready to drink	< 0.1% s/s
Fresh or processed foods from meat, milk, cereals, pulses, oils, eggs, seafood and spices and dessert.	< 0.3% s/s or s/w
Raw materials such as protein concentrate, sugars, yeast, essential oils, raw cocoa and other materials Primary similarity.	< 0.5% s/s or s/w
Chocolate	< 0.02% s/w
Other food	< 0.02% s/s

Shortcuts: s= size w= weight

Table (2): Maximum permissible limits for the effects of ethyl alcohol (ethanol) according to standards without detailed definition by product groups:

Name of Standard ²	End consumer Products	Intermediate Products
JAKIM Malaysia	< 0,01%	undefined
MUI Indonesia	<0,5%	< no limit (non-consumption only)
AOI Thailand	< 1%	undefined
MUIS Singapore	< 0,5%	undefined

¹ According to standard: GSO 2538:2017 /SMIIC 1: 2011

² Alcohol in general use (JAKIM/MUI) : (1) not a byproducts of alcoholic industry, (2) liquid form is not allowed, (3) solid form is allowed after wash through Islamic law, (3) is allowed after further chemical or biochemical reactions.

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