

HALAL STATEMENT – SYNTHETIC ETHYL ALCOHOL
(PPS361, Rev. 1.1, 02/18, KMC)

Synthetic Ethyl Alcohol sold by Greenfield Global USA Inc. is derived by the direct hydrolysis of ethylene gas. Ethylene is produced on industrial scale from natural gas or oil. The hydrolysis reaction is performed under acid-catalyzed conditions in a fixed-bed reactor in the presence of high pressure steam. A multistage distillation process performs separation and purification of the final product.

Synthetic Ethyl Alcohol is produced in an industrial chemical plant, it is not extracted from alcoholic beverages, and it is not intended for beverage use.

In addition, the following process statements about the synthetic alcohol production can be made:

- Raw materials used in manufacture of synthetic ethyl alcohol are not of animal nor enzyme origin.
- Raw materials do not contain nor come in contact with products of animal origin, or yeast at any point of the manufacturing process.
- Synthetic ethyl alcohol production does not involve use of yeast, bacteria, enzymes or solvents in the manufacturing process.
- Manufacturing facilities producing and processing Synthetic Ethyl Alcohol do not handle any products of animal origin.

HALAL refers to any object permissible to use according to Islamic Law. While alcoholic beverages are viewed as intoxicating agents and are not permitted, small amounts of industrial ethanol might be allowed in certain manufacturing applications.

Determination of suitability of any Greenfield Global USA Inc. products for any application is at the discretion on the end users. Please contact your Halal Certification Authority to obtain definitive clarification of this matter.