

JRC shortlists denaturants to combat alcohol fraud

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Scientists at the European Commission's Joint Research Centre (JRC) have identified a shortlist of denaturants that could be used to harmonise denaturing practices at EU level and reduce fraud and tax evasion of alcoholic beverages. The proposed denaturants could potentially replace over 100 different substances currently used in Member States to denature alcohol.

Denaturants are used to make alcohol unfit for [human consumption](#) and are therefore strong-smelling or bitter-tasting substances. Denatured alcohol is not subject to the harmonised excise duty applied on alcohol and [alcoholic beverages](#). It is used, for example, in screen-washer fluid, perfumes and solvents.

The study was coordinated by the JRC under a request from the European Commission's Directorate-General for Taxation and Customs Union. It compared various potential denaturants against a set of criteria, such as difficulty to remove from alcohol, ease of detection and reasonable cost. The study produced a shortlist of specific denaturant formulation and concentration for several categories of product, as detailed in the table below:

Product category

Recommended denaturants and concentrations* for completely denatured alcohol

3 litres isopropyl alcohol (IPA) + 3 litres methyl ethyl ketone (MEK) + 1 gram denatonium benzoate for solvents, thinners and screen-wash products as above

for cosmetics, perfumes and hygienic products 5 litres IPA + 1 gram denatonium benzoate or 78 gram tert-butyl alcohol (TBA) + 1 gram denatonium benzoate for biofuels

gasoline** + 2 litres ethyl tert-butyl ether (ETBE) + 1 litre IPA for printing inks

3 litre IPA + 3-10 litres ethyl acetate (EA).

* Concentrations expressed per hectolitre absolute [alcohol](#) (hL aa)

** The denatured ethanol would still need to be mixed with gasoline in order for the final exemption to be granted. In the case of E85, more than 10% gasoline should be added.

The European Commission is currently considering how to promote the use of the proposed denaturants throughout the EU. The aim is to have a voluntary transition over time to the new denaturants per product category. The European Chemicals Agency has already given a positive opinion on the compatibility of the proposed denaturants with the objectives of the EU legal framework for chemicals (REACH).

A consultation with the Member States on this subject was opened in July 2011 and should be finalised by end of June 2012.

More information: Council Directive 92/83/EEC of 19 October 1992 on the harmonization of the structures of excise duties on alcohol and alcoholic beverages, [eur-lex.europa.eu/LexUriServ/L ... EX:31992L0083:en:NOT](http://eur-lex.europa.eu/LexUriServ/L...EX:31992L0083:en:NOT)

Provided by European Commission Joint Research Centre

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