

# Urea in the Home Brew Market

The purpose of this document is to provide easy access to independent reference sources so that anyone interested can easily find out the latest research, legal status and comment regarding the use of urea as a fermentation aid.

Urea, of itself, is not a dangerous product. It provides an excellent nitrogen source and it has many beneficial applications, particularly as a fertiliser.

Ethyl Carbamate (Urethane) is a known carcinogen (Grade 2 carcinogen – known to produce cancer in primates. Recently regraded to the same level of threat as Arsenic and Mercury)

It is produced in a reaction between urea and ethanol. The levels produced increase exponentially when the mixture is heated, particularly during distillation (the level of Urethane doubles with every 8°C increase in temperature.) For a more detailed explanation of the role of urea and ethanol see: <http://www.firstventuretech.com/s/Yeast.asp>

Urethane levels in alcoholic beverages and the use of urea in fermentation have been of great concern to health agencies and food safety agencies worldwide since the mid 1980's. A brief history can be viewed at: <http://www.firstventuretech.com/s/EthylCarbamate.asp>

The sale or use of urea-based products for the production of alcohol is banned in some countries but is not currently illegal in New Zealand or Australia.

In New Zealand, where home distillation is legal, the use of urea in alcohol fermentation was banned in the mid 1990's. In 2000, however, New Zealand and Australia adopted a joint Food Code, with the Australian Food Code being temporarily adopted while a full review was undertaken.

Home distillation is not legal in Australia, and the use of urea was not banned under the then existing Australian Food Code.

Over recent years, there has been a large increase in the use of urea in the yeast products produced for the craft distilling and home brew markets. Urea is not shown in the list of ingredients.

In March 2006, Food Standards Australia New Zealand (FSANZ) published its Draft Assessment Report on Processing Aids. It details the intention to ban the use of Urea in the fermentation of alcoholic beverages, and reasons for this. The FSANZ Timetable suggests this may be in effect from late 2006, although this may be subject to change. The links below contain both the proposed Food Code and the current timetable

**Draft Assessment Report:** see pages: 38 and 94 - 97  
<http://www.foodstandards.gov.au/standardsdevelopment/proposals/proposalp277reviewof2369.cfm>

**Workplan:** see page: 5 (P277)  
<http://www.foodstandards.gov.au/standardsdevelopment/standardsworkplan.cfm>

*“In particular, we are concerned about the sale of home brew kits for the distillation of spirits that may contain urea”* - (May 2006) NZ Food Safety submission to FSANZ recommending specific mention in the new Food Code banning urea in products for the home brew industry.

<http://www.nzfsa.govt.nz/labelling-composition/publications/submissions-to-fsanx/2006/p277.htm>

**The advantages of using urea:** nearly half the cost to produce, allows high-speed fermentation and higher alcohol ceilings.

The manufacturer and wholesalers of urea-based yeasts claim that the use of urea is perfectly safe. One might reasonably expect they have independent research that substantiates their claims. Interested parties would need to contact the suppliers to obtain details of this research.

The manufacturers of urea-based yeast products also supply urea-free yeast products.

Are there long term ethical and legal issues that should be considered by the industry? This is a question which can only be answered well into the future. The following site does explore these issues and offer answers in their Q&A:

<http://www.firstventuretech.com/s/FAQs.asp>

## **Further Information**

[ftp://ftp.fao.org/es/esn/jecfa/jecfa64\\_summary.pdf](ftp://ftp.fao.org/es/esn/jecfa/jecfa64_summary.pdf) (See Pages: 19 - 23 and 45 - 46)

<http://www.firstventuretech.com/s/RelevantLinks.asp>

## **Conclusion:**

In today's society, consumers expect to be informed of the contents of the products they buy and demand, as a right, to be made aware of any potential health risks associated with those products.

Food Safety Agencies around the world are particularly concerned that Urethane levels in alcoholic beverages be reduced to the lowest possible levels. The use of Urea significantly increases the levels.

The current draft of the Australia and New Zealand Food Code suggests the use of urea as a fermentation aid will be banned.

All suppliers can provide a range of both Urea-Based and Urea-Free products.

## **The *essencia* Position:**

*essencia* believes people should have access to all the available information to enable them to make informed decisions. Consumers can weigh up the advantages against any potential health risks. Retailers need to consider the welfare of their customers and any Duty of Care they may carry.

*essencia* withdrew its urea based yeast in 2004. We withdrew our very successful Super 7™ on finding out about the urea issue and on the verbal advice of NZ Food safety. We do not want to unnecessarily risk the health of our customers.

*essencia* have made no submissions to FSANZ on the new Food Code. As a responsible supplier of food products, we have followed the development of the new food code and other expert research.

*essencia* respects the concerns of: FSANZ, NZFSA, NZ/Australia Distilled Spirits and Wine Industries, FAO, WHO, FDA, Health Canada, U.S. Wine and Distilled Spirits Industry, U.S. National Institutes of Health -National Toxicology Program (NTP), and U.K. Food Standards Agency, in addition to all the research agencies and companies worldwide.