

NOSB NATIONAL LIST FILE CHECKLIST

PROCESSING

MATERIAL NAME: #29 Yeast, Nutritional



NOSB Database Form



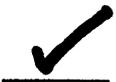
References



MSDS (or equivalent)



FASP (FDA)



**TAP Reviews from: Joe Montecalvo, Rich
Theuer**

**NOSB/NATIONAL LIST
COMMENT FORM
PROCESSING**

Material Name: #29 Yeast, Nutritional

Please use this page to write down comments, questions, and your anticipated vote(s).

COMMENTS/QUESTIONS:

1. In my opinion, this material is:
 Synthetic Non-synthetic.

2. Should this material be allowed in an "organic food" (95% or higher organic ingredients)? Yes No
(IF NO, PROCEED TO QUESTION 3.)

3. Should this substance be allowed in a "food made with organic ingredients" (50% or higher organic ingredients)? Yes No

TAP REVIEWER COMMENT FORM for USDA/NOSB

Use this page or an equivalent to write down comments and summarize your evaluation regarding the data presented in the file of this potential National List material. Complete both sides of page. Attach additional sheets if you wish.

This file is due back to us by: Sept 5, 1995

Name of Material: Yeast, nutritional

Reviewer Name: R. Theuer

Is this substance Synthetic or non-synthetic? Explain (if appropriate)

NON-SYNTHETIC, BASED ON DESCRIPTION

If synthetic, how is the material made? (please answer here if our database form is blank)

This material should be added to the National List as:

Synthetic Allowed Prohibited Natural

or, Non-synthetic (Allowed as an ingredient in organic food)

Non-synthetic (Allowed as a processing aid for organic food)

or, this material should not be on the National List

Are there any use restrictions or limitations that should be placed on this material on the National List?

SELF-LIMITED BY FLAVOR, NUCLEIC ACID CONTENTS, COST

Please comment on the accuracy of the information in the file:

Any additional comments? (attachments welcomed)

Do you have a commercial interest in this material? Yes; No

Signature R. Theuer

Date 8/28/95

**Please address the 7 criteria in the Organic Foods Production Act:
(comment in those areas you feel are applicable)**

- (1) **the potential of such substances for detrimental chemical interactions with other materials used in organic farming systems;**

NONE - OK

- (2) **the toxicity and mode of action of the substance and of its breakdown products or any contaminants, and their persistence and areas of concentration in the environment;**

OK

- (3) **the probability of environmental contamination during manufacture, use, misuse or disposal of such substance;**

IMPROVES SITUATION, SINCE IT HELPS TO
CLEAN UP SULFITE WASTE LIQUOR FROM PULP,
PAPER MANUFACTURE.

- (4) **the effect of the substance on human health;**

SAFE

- (5) **the effects of the substance on biological and chemical interactions in the agroecosystem, including the physiological effects of the substance on soil organisms (including the salt index and solubility of the soil), crops and livestock;**

OK

- (6) **the alternatives to using the substance in terms of practices or other available materials; and**

MAY BE ABLE TO USE YEAST AUTOLYSATES
FOR SAME PURPOSE

- (7) **its compatibility with a system of sustainable agriculture.**

POSITIVE

TAP REVIEWER COMMENT FORM for USDA/NOSB

Use this page or an equivalent to write down comments and summarize your evaluation regarding the data presented in the file of this potential National List material. Complete both sides of page. Attach additional sheets if you wish.

This file is due back to us by: Sept 5, 1995

Name of Material: Yeast, nutritional

Reviewer Name: DR. JOE MONTECALVO

Is this substance Synthetic or non-synthetic? Explain (if appropriate)

Synthetic

If synthetic, how is the material made? (please answer here if our database form is blank)

This material should be added to the National List as:

Synthetic Allowed Prohibited Natural

or, Non-synthetic (Allowed as an ingredient in organic food)

Non-synthetic (Allowed as a processing aid for organic food)

or, this material should not be on the National List

Are there any use restrictions or limitations that should be placed on this material on the National List?

Please comment on the accuracy of the information in the file: OK.

Any additional comments? (attachments welcomed) None

Do you have a commercial interest in this material? Yes; No

Signature Dr. Joe Montecalvo Date 8/22/95

**Please address the 7 criteria in the Organic Foods Production Act:
(comment in those areas you feel are applicable)**

- (1) the potential of such substances for detrimental chemical interactions with other materials used in organic farming systems;**

None

- (2) the toxicity and mode of action of the substance and of its breakdown products or any contaminants, and their persistence and areas of concentration in the environment;** *None*

- (3) the probability of environmental contamination during manufacture, use, misuse or disposal of such substance;** *None*

- (4) the effect of the substance on human health;**

As with all yeasts, persons who have yeast infections especially "thrush" (i.e. yeast infection of the mouth) should not consume any product made with yeast.

- (5) the effects of the substance on biological and chemical interactions in the agroecosystem, including the physiological effects of the substance on soil organisms (including the salt index and solubility of the soil), crops and livestock;**

None.

- (6) the alternatives to using the substance in terms of practices or other available materials; and** *None*

- (7) its compatibility with a system of sustainable agriculture.**

o.k.

Identification

Common Name	Yeast, nutritional	Chemical Name	
Other Names	single cell protein (misnomer)		
Code #: CAS		Code #: Other	
N. L. Category	Non-agricultural	MSDS	<input type="radio"/> yes <input checked="" type="radio"/> no

Chemistry

Family

Composition Can be either brewer's yeast (*S. cerevisiae* or *S. uvarum*), bakers' yeast (*S. cerevisiae*), or alcohol-grown yeast (*Candida utilis*). Usually fortified with higher concentrations of B vitamins, principally thiamine, riboflavin and niacin.

Properties see other yeast entries.

How Made Can be made from brewer's yeast (*S. cerevisiae* or *S. uvarum*), bakers' yeast (*S. cerevisiae*), alcohol-grown yeast (*Candida utilis*). For baker's or brewer's production methods see those entries. *Candida utilis* is grown on sulfite waste liquor or on molasses. The sulfite liquor comes from wood processing and contains 2-3wt% of fermentable sugars. In the US *Candida utilis* is also often grown on ethanol. In the past, some yeasts were grown on petrochemical substrates, but this is not common anymore. Baker's yeast is often preferred as it is possible to produce high levels of nicotinic acid and thiamine during growth, and to use it as a vehicle to incorporated minor elements like selenium into the human diet. After growth, the microbial biomass is recovered from the fermentor by centrifugation, washing concentration and drying.

Use/Action

Type of Use Processing
Specific Use(s) dietary supplement. Used also as animal feed.

Action

Combinations

Status

OFPA

N. L. Restriction

EPA, FDA, etc

Directions

Safety Guidelines

State Differences

Historical status

International status

OFPA Criteria

2119(m)1: chemical interactions **Not Applicable**

2119(m)2: toxicity & persistence **Not Applicable**

2119(m)3: manufacture & disposal consequences

Biological manufacture has little consequences.

2119(m)4: effect on human health

The presence of nucleic acids in yeast is one of the main obstacles to their use in human foods. Ingestions of purines increases plasma levels of uric acid, which may cause gout. Daily intake of inactive dry yeasts should be limited to ca 20 grams/day. (Animals can metabolize uric acid, so do not have a yeast limitation).

2119(m)5: agroecosystem biology **Not Applicable**

2119(m)6: alternatives to substance

other sources of B vitamins.

2119(m)7: Is it compatible?

References

AU: Remington,-Dennis-W.; Higa,-Barbara-W.

TI: Back to health : a comprehensive medical and nutritional yeast control program.

SO: Provo, Utah : Vitality House International, 1986. 252 p. : ill.

CN: DNAL RC123.C3R4

PY: 1987

AB: Abstract: This self-help guide is intended to provide information to both the health professional and the patient who are seeking help in dealing with the many debilitating problems associated with an overgrowth of yeast or *Candida albicans*. The text provides a description of the symptoms of yeast overgrowth and a nutritional program to control yeast growth. Recipes included.

Kirk-Othmer Encyclopedia of Chemical Technology, 3rd edition, 1982. John Wiley and Sons, NY.