

**NOSB NATIONAL LIST  
FILE CHECKLIST**

**CROPS**

**MATERIAL NAME: #22 Vitamins**



**NOSB Database Form**



**References**



**MSDS (or equivalent)**



**TAP Reviews from: David Knauff  
(Additional TAP Reviews expected from: Donald  
Blakeney and Amigo Cantisano)**

**NOSB/NATIONAL LIST  
COMMENT FORM  
CROPS**

**Material Name: #22 Vitamins**

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

**COMMENTS/QUESTIONS:**

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

2. This material should be placed on the proposed National List as:  
 Prohibited Natural  Allowed Synthetic.

# 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 19, 1995

Name of Material: Vitamins

Reviewer Name: David Knauft

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

B<sub>1</sub> & C could be either; E non-synthetic

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

B<sub>1</sub>, C, & E vitamins are all natural. Described process of synthesis of B<sub>1</sub> & C produce compounds identical to natural products. Vit. E extraction doesn't change compound & is definitely natural.

This material should be added to the National List as:

Synthetic Allowed       Prohibited Natural

or,  Non-synthetic (This material does not belong on National List)  
(see above)

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:

Any additional comments? (attachments welcomed)

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

Signature David Knauft

Date 9-11-95

## Identification

<b>Common Name</b>	<b>Vitamins</b>	<b>Chemical Name</b>	
<b>Other Names</b>	Vitamins B1, C and E		
<b>Code #: CAS</b>		<b>Code #: Other</b>	
<b>N. L. Category</b>	Synthetic Allowed	<b>MSDS</b>	no

## Chemistry

**Family**  
**Composition**  
**Properties**  
**How Made**

B1: Made from joining pyrimidine and thiazol moieties through synthesis.  
 Vitamin C: Culture fermentation from dextrose. Extracted and purified using synthetic acidulants. The Reichstein process is used in which D-glucose is hydrogenated to D-sorbitol, which is oxidized microbiologically to L-sorbose. L-sorbose is reacted with acetone to form an intermediate which is then oxidized and rearranged by treatment with hydrogen chloride to yield L-ascorbic acid.  
 Vitamin E: Vacuum steam distillation of edible vegetable oil products, or chemical extraction from vegetable oils.

## Use/Action

**Type of Use** Crops  
**Use(s)** Vitamins C and E are used as foliar and plant dips for pest control. They are antioxidants. Vitamin B1 is used to stimulate rooting in cuttings.

**Action**

**Combinations**

## Status

**OFPA**  
**N. L. Restriction**  
**EPA, FDA, etc**  
**Safety Guidelines**  
**Registration**  
**Historical status**  
**International status**

**Directions**  
**State Differences**

## OFPA Criteria

**2119(m)1: chemical interactions**

**2119(m)2: toxicity & persistence**

Vitamins are quickly metabolized in plants and the soil into biological breakdown products. Non-toxic to plants and humans in the amounts used.

**2119(m)3: manufacture & disposal consequences**

**2119(m)4: effect on human health**

**2119(m)5: agroecosystem biology**

**2119(m)6: alternatives to substance**

**2119(m)7: Is it compatible?**

## References

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