NOSB NATIONAL LIST
FILE CHECKLIST

LIVESTOCK

MATERIAL NAME: Biotin

CATEGORY: Synthetic Allowed **Complete?:** 3/22

✓ **NOSB Database Form**

✓ **References**

✓ **MSDS** (or equivalent)

____ **Date file mailed out:** 9/22/94

✓ **TAP Reviews from:** Richard Krengel
William Zimmer

____ **Supplemental Information:**

MISSING INFORMATION: many criteria not addressed.

NOSB/NATIONAL LIST COMMENT FORM/BALLOT

Use this page to write down comments and questions regarding the data presented in the file of this National List material. Also record your planned opinion/vote to save time at the meeting on the National List.

Name of Material BIOTIN

Type of Use: _____ **Crops;** ✓ **Livestock;** _____ **Processing**

TAP Review by:

1. Richard Krengel
2. William Zimmer
3. _____

Comments/Questions:

My Opinion/Vote is:

Signature _____ **Date** _____

USDA/TAP REVIEWER COMMENT FORM

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. Attach additional sheets if you wish.

This file is due back to us within 30 days of: Sept. 22

Name of Material: Biotin

Reviewer Name: William A. Zimmer D.V.M.

Is this substance Natural or Synthetic? Explain (if appropriate)
Synthetic form is only commercially available form that is generally able to be supplemented into feed.

Please comment on the accuracy of the information in the file:
Accurate. Also available in solution.

This material should be added to the National List as:

✓ **Synthetic Allowed** ____ **Prohibited Natural**

or, ____ **This material does not belong on the National List because:**

Are there any restrictions or limitations that should be placed on this material by use or application on the National List? No restrictions as an additive to feed rations or orally administered preparations. Documentation of dosage and administration, short term, for any injected preparations. Suggest 30 day meat withdrawal due to injection site of liquid preparations.

Any additional comments or references?

Expand status to include use in crops as a foliar or plant food and possibly for preparations to treat stressed crops.

Signature William A. Zimmer DVM **Date** 3/13/95

USDA/TAP REVIEWER COMMENT FORM

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. Attach additional sheets if you wish.

This file is due back to us within 30 days of: Sept. 22

Name of Material: BIOTIN

Reviewer Name: Richard Krengel

Is this substance Natural or Synthetic? Explain (if appropriate)

Synthetic

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

All Correct

This material should be added to the National List as:

✓ **Synthetic Allowed** ____ **Prohibited Natural**

or, ____ **This material does not belong on the National List because:**

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

Any additional comments or references?

Signature RKrengel **Date** 10/19/94

NOSB Materials Database

3.

Identification

Common Name **Biotin** **Chemical Name** D-Biotin

Other Names Hexahydro-2-oxo-1H-THIENO[3,4-D]IMIDAZOLE-4-PENTANOIC Acid

Code #: CAS 00058-85-5 **Code #: Other** NIOSH #: XJ9088200

N. L. Category Synthetic Allowed

Chemistry

Composition C10H16N203S **Family**

Properties White crystalline powder. Melting point 232 C, appreciable solubility.

How Made

Use/Action

Type of Use Livestock

Use(s) feed additive

Action

Combinations

Status

OFPA 2118 (c) (1) (B)(i) synthetic on exemption list as vitamin

N. L. Restriction Category 3- TAP review before National List

EPA, FDA, etc FDA: allowed in animal feed under 582.5159 (GRAS)

Registration

Directions

Safety Guidelines Caution - May cause irritation.

State Differences

Historical status

Internationl status

NOSB Materials Database

4.

OFPA Criteria

2119(m)1:chem. inter.

2119(m)2: toxicity

2119(m)3:manufacture

2119(m)4:humans No carcinogenicity. No LD50 on MSDS.

2119(m)5: biology

2119(m)6:alternatives

2119(m)7:compatible

References

Bitsch,-R.; Toth-Dersi,-A.; Hoetzel,-D., "Biotin deficiency and biotin supply." Ann-N-Y-Acad-Sci. New York, N.Y. : The Academy. June 24, 1985. v. 447 p. 133-139. CN: DNAL 500-N484

Whitehead,-C.C. "Assessment of biotin deficiency in animals." Ann-NY -Acad-Sci. New York, N.Y. : The Academy. June 24, 1985. v. 447 p. 86-96. ill. CN: DNAL 500-N484

Paul,-P.K. "Effect of nutrient toxicities in animals and man: biotin Includes insects." Nutritional disorders. Miloslav Rechcigl, editor-in-chief. West Palm Beach, CRC Press, 1978. v.1 p. 47-58. CN:DNAL RC620.A1N83

MSDS for D-BIOTIN

1 - PRODUCT IDENTIFICATION

PRODUCT NAME: D-BIOTIN
FORMULA: C10H16N2O3S FORMULA WT: 244.31
CAS NO.: 00058-85-5 NIOSH/RTECS NO.: XJ9088200
COMMON SYNONYMS: HEXAHYDRO-2-OXO-1H-THIENO[3,4-D]IMIDAZOLE-4-PENTANOIC ACID
PRODUCT CODES: C272
EFFECTIVE: 03/11/86 REVISION #01

PRECAUTIONARY LABELLING BAKER SAF-T-DATA(TM) SYSTEM

HEALTH - 1 SLIGHT
FLAMMABILITY - 1 SLIGHT
REACTIVITY - 1 SLIGHT
CONTACT - 1 SLIGHT
HAZARD RATINGS ARE 0 TO 4 (0 = NO HAZARD; 4 = EXTREME HAZARD).

LABORATORY PROTECTIVE EQUIPMENT
GOGGLES; LAB COAT; VENT HOOD; PROPER GLOVES

PRECAUTIONARY LABEL STATEMENTS
CAUTION
MAY CAUSE IRRITATION
DURING USE AVOID CONTACT WITH EYES, SKIN, CLOTHING. WASH THOROUGHLY AFTER HANDLING. WHEN NOT IN USE KEEP IN TIGHTLY CLOSED CONTAINER.

SAF-T-DATA(TM) STORAGE COLOR CODE: ORANGE (GENERAL STORAGE)

2 - HAZARDOUS COMPONENTS

COMPONENT	%	CAS NO.
NOT APPLICABLE		

3 - PHYSICAL DATA

BOILING POINT: N/A VAPOR PRESSURE(MM HG): N/A
MELTING POINT: 232 C (450 F) VAPOR DENSITY(AIR=1): N/A
SPECIFIC GRAVITY: N/A EVAPORATION RATE: N/A
(H2O=1) (BUTYL ACETATE=1)
SOLUBILITY(H2O): APPRECIABLE (MORE THAN 10 %) % VOLATILES BY VOLUME: 0
APPEARANCE & ODOR: WHITE CRYSTALLINE POWDER.

4 - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (CLOSED CUP: N/A

FLAMMABLE LIMITS: UPPER - N/A % LOWER - N/A %

FIRE EXTINGUISHING MEDIA
USE EXTINGUISHING MEDIA APPROPRIATE FOR SURROUNDING FIRE.

SPECIAL FIRE-FIGHTING PROCEDURES
FIREFIGHTERS SHOULD WEAR PROPER PROTECTIVE EQUIPMENT AND SELF-CONTAINED BREATHING APPARATUS WITH FULL FACEPIECE OPERATED IN POSITIVE PRESSURE MODE.

TOXIC GASES PRODUCED
NITROGEN OXIDES, SULFUR DIOXIDE, CARBON MONOXIDE, CARBON DIOXIDE

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5 - HEALTH HAZARD DATA

CARCINOGENICITY: NTP: NO IARC: NO Z LIST: NO OSHA REG: NO
EFFECTS OF OVEREXPOSURE: PROLONGED CONTACT MAY CAUSE SKIN SENSITIZATION.
TARGET ORGANS: NONE IDENTIFIED
MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: NONE IDENTIFIED
ROUTES OF ENTRY: NONE INDICATED

EMERGENCY AND FIRST AID PROCEDURES
INGESTION: IF SWALLOWED AND THE PERSON IS CONSCIOUS, IMMEDIATELY GIVE LARGE AMOUNTS OF WATER. GET MEDICAL ATTENTION.
INHALATION: IF A PERSON BREATHES IN LARGE AMOUNTS, MOVE THE EXPOSED PERSON TO FRESH AIR. GET MEDICAL ATTENTION.
EYE CONTACT: IMMEDIATELY FLUSH WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. GET MEDICAL ATTENTION.
SKIN CONTACT: IMMEDIATELY WASH WITH PLENTY OF SOAP AND WATER FOR AT LEAST 15 MINUTES.

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6 - REACTIVITY DATA

STABILITY: STABLE HAZARDOUS POLYMERIZATION: WILL NOT OCCUR
CONDITIONS TO AVOID: HEAT, SUNLIGHT AND ULTRAVIOLET LIGHT
INCOMPATIBLES: STRONG OXIDIZING AGENTS, STRONG ACIDS, STRONG BASES, FORMALDEHYDE, NITROUS ACID, CHLORAMINE-T
DECOMPOSITION PRODUCTS: OXIDES OF NITROGEN, OXIDES OF SULFUR, CARBON MONOXIDE, CARBON DIOXIDE

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7 - SPILL AND DISPOSAL PROCEDURES

STEPS TO BE TAKEN IN THE EVENT OF A SPILL OR DISCHARGE
WEAR SUITABLE PROTECTIVE CLOTHING. CAREFULLY SWEEP UP AND REMOVE.

DISPOSAL PROCEDURE
DISPOSE IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL ENVIRONMENTAL REGULATIONS.

8 - PROTECTIVE EQUIPMENT

VENTILATION: USE ADEQUATE GENERAL OR LOCAL EXHAUST VENTILATION TO KEEP FUME OR DUST LEVELS AS LOW AS POSSIBLE.

RESPIRATORY PROTECTION: NONE REQUIRED WHERE ADEQUATE VENTILATION CONDITIONS EXIST. IF AIRBORNE CONCENTRATION IS HIGH, USE AN APPROPRIATE RESPIRATOR OR DUST MASK.

EYE/SKIN PROTECTION: SAFETY GLASSES WITH SIDESHIELDS, RUBBER GLOVES ARE RECOMMENDED.

9 - STORAGE AND HANDLING PRECAUTIONS

SAF-T-DATA(TM) STORAGE COLOR CODE: ORANGE (GENERAL STORAGE)

SPECIAL PRECAUTIONS
KEEP CONTAINER TIGHTLY CLOSED. SUITABLE FOR ANY GENERAL CHEMICAL STORAGE AREA.

STORE BELOW 40 C.
KEEP CONTAINERS OUT OF SUN AND AWAY FROM HEAT.

10 - TRANSPORTATION DATA AND ADDITIONAL INFORMATION

DOMESTIC (D.O.T.)
PROPER SHIPPING NAME CHEMICALS, N.O.S. (NON-REGULATED)

INTERNATIONAL (I.M.O.)
PROPER SHIPPING NAME CHEMICALS, N.O.S. (NON-REGULATED)