

NOSB NATIONAL LIST FILE CHECKLIST

CROPS

MATERIAL NAME: #6 Gibberellic acid



NOSB Database Form



References



MSDS (or equivalent)



TAP Reviews from: Diana Tracy, Brian Baker,
Paul Sachs, William
Zimmer

**NOSB/NATIONAL LIST
COMMENT FORM
CROPS**

Material Name: #6 Gibberellic acid

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. 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: Aug. 5, 1996

Name of Material: Gibberellic Acid

Reviewer Name: _____

Is this substance Synthetic or non-synthetic? Explain (if appropriate) Non-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 (This material does not belong on 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:

Any additional comments? (attachments welcomed)

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

Signature [Signature] Date 8/8/96

**USDA/TAP Reviewer
Comment Form**

Name of Material: Gibberellic Acid
Reviewer Name: Brian Baker

=====

NATURAL

Gibberellic acid is a naturally occurring growth regulator commercially prepared from the organism *Gibberella fujikuroi*, usually cultured on rice in an aqueous medium. The organism is filtered out of the medium with an absorbent, the acid is extracted from the organism by ion exchange, and purified.

1. There is no documented adverse interaction with any material used in organic farming system. Application rates are relatively low, and are measured in grams of active ingredient per acre. For example, with Thompson seedless grapes, the maximum recommended amount is 208 grams per acre.
2. EPA registration review complete. EPA Class 3 (least toxic), Oral LD₅₀=1500 mg/kg. No toxic symptoms in mice. Non-toxic, non-persistent.
3. The fermentation process does not adversely affect the environment. Disposal is not a problem.
4. Potential for eye irritation. Applicators should be informed and wear protective clothing.
5. No adverse consequences known for use according to label. Label requires that it not be applied to water or wetlands.
6. There are no alternatives to this substance as a thinning and sizing agent for the production of marketable table grapes. It is also used as a growth regulator for a number of other crops, including artichokes, celery, citrus, cherries and hops.
7. Gibberellic acid has long been used in certified organic production. It is compatible with sustainable agriculture practices.

Recommendation: Synthetic: No. Prohibited: No.

This material should be allowed for use in organic production without restriction.

TAP REVIEWER COMMENT FORM for USDA/NOSB

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This file is due back to us by: August 5, 1996

Name of Material: Gibberellic Acid

RECEIVED JUL 25 1996

Reviewer Name: Paul Sachs

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

Non-synthetic. Gibberellic acid is produce by fermentation with the micro-organism Gibberella fujikuroi. In commercially available formulations, the inert ingredients may be 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 (This material does not belong on National List**

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

Restrictions should be based on application rates reccommended by the manufacturer

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

None provided

Any additional comments? (attachments welcomed)

Gibberellic acid occurs naturally in plants, algae, and other organisms. Plants produce small amounts but production can be inhibited by stress. Applied sources can both replace the loss from stress and suppliment that which is already being produced. Gibberellins increase both cell division and cell elongation in stems and leaves and helps break dormancy in some seeds and can induce flowering.

Do you have a commercial interest in this material Yes No

Signature Paul D. Sachs **Date** 7/24/96

**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;

I know of no detrimental interactions that can occur if used according to the label.

2. the toxicity and mode of action of the substance and of its breakdown products of any contaminants, and their persistence and areas of concentration in the environment;

I know of no toxic reactions if product is used according to the label

3. the probability of environmental contamination during manufacture, use, misuse or disposal of such substance:

Unlikely

4. the effect of the substance on human health;

Gibberellic acid itself is not toxic to humans, however, the inert ingredients, usually isopropyl alcohol, is harmful if ingested.

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;

I know of none.

6. the alternatives to using the substance in terms of practices or other available materials; and

Extract of many seaweeds contain gibberellic acid as well as other growth hormones.

7. its compatibility with a system of sustainable agriculture.

Yes

TAP REVIEWER COMMENT FORM for USDA/NOSB

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This file is due back to us by: Aug. 5, 1996

Name of Material: Gibberellic Acid RECEIVED JUL 3 0 199

Reviewer Name: William A. Zimmer DVM.

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

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

Undecided

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)

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

unfamiliar with product

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

Any additional comments? (attachments welcomed)

Purified plant hormones applied in high levels relative to nature raises the questions of animal hormones (RBST, prostaglandin, etc) becoming certifiable. How is the product produced - genetic engineering?

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

Signature William A. Zimmer DVM Date 7-23-96

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: Aug. 5, 1996

Name of Material: Gibberellic Acid

Reviewer Name: DIANA TRACY RECEIVED AUG 0 5 1996

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)

NATURAL MATERIAL FOUND (A VARIETY OF FRUITS); ^{+SEEDS} SOME SYNTH. PRODUCTS ALLOWABLE, SOME NOT - DEPENDING ON MFR. PROCESS AND WERTS.

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)

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:

CCOF + ORE TILTH MATERIALS APPROVED GIBBERELIC ACID AS AN ALLOWED GENERIC AFTER REVIEWING SEVERAL BRAND NAME PRODUCTS.

Any additional comments? (attachments welcomed)

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

Signature Diana Tracy Date 7/24/96

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;

Low

- (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;

Low

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

Low

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

Low

- (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;

- (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.

FAIR - GOOD

NOSB Materials Database

1

Identification

Common Name **Gibberellic Acid** Chemical Name 2,4a,7-trihydroxy-1-methyl-8-methylenegibb-3-ene-1, 10-carboxylic acid 1-4 lactone
Other Names Pro-Gibb, Gibberellin
Code #: CAS 77-06-5 Code #: Other
N. L. Category MSDS yes no

Chemistry

Family *gibberellins*
Composition *diterpenoid acid based on gibberellane skeleton*
Properties *growth regulator*
How Made *FERMENTATION, CHEMICALLY*

Use/Action

Type of Use Crops
Specific Use(s) Grape thinner and sizer, seed treatments, control of fruit retention, growth stimulant
Action
Combinations

Status

OFPA
N. L. Restriction
EPA, FDA, etc
Directions
Safety Guidelines
Historical status *ALLOWED BY CCOF + ORE TILTS IF ^{MADE} BY FERMENTATION, AND*
International status *CONTAINS NO PROHIBITED (INERT)*

NOSB Materials Database

OFPA Criteria

2

2119(m)1: chemical interactions

2119(m)2: toxicity & persistence

LOW

mouse : 1500 mg / kg = no toxic effects

2119(m)3: manufacture & disposal consequences

2119(m)4: effect on human health

2119(m)5: agroecosystem biology

2119(m)6: alternatives to substance

NONE

2119(m)7: Is it compatible?

YES

References

MERCK INDEX

CCOF FILES (~~INCLUDE~~)

NOTES FROM CCOF/ORE TILTH MATERIALS COMMITTEE

FARM CHEMICALS HANDBOOK

NOSB Materials Database

1

Identification

Common Name Gibberellic Acid **Chemical Name** 2,4a,7-trihydroxy-1-methyl-8-methylenegibb-3-ene-1, 10-carboxylic acid 1-4 lactone
Other Names Pro-Gibb, Gibberellin
Code #: CAS 77-06-5 **Code #: Other**
N. L. Category **MSDS** yes no

Chemistry

Family
Composition
Properties
How Made

Use/Action

Type of Use Crops
Specific Use(s) Grape thinner and sizer, seed treatments, control of fruit retention, growth stimulant
Action
Combinations

Status

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



MATERIAL SAFETY DATA SHEET

Abbott Laboratories
 Chemical & Agricultural Products Division
 North Chicago, IL 60064
 Emergency Telephone: 1-708-937-6100
 Chemtrec: 1-800-424-9300

Issue Date: 11/20/92
 TSCA Status: Exempt
 Approval:
 List/Code: 5016/11844
 Product Name: ProGibb 4%
 Chemical Name: Gibberellic Acid
 DOT Classification: Isopropanol, 3, UN 1219, P.G. II

HAZARDOUS INGREDIENTS/IDENTITY INFO.

NAME (CAS NO.)	OSHA PEL	ACGIH TLV	ABBOTT LIMIT
Gibberellic Acid* (77-06-5) RTECS No. LY8990000	NL	NL	**
Isopropyl Alcohol* (67-63-0) RTECS No. NT8050000	400 ppm	400 ppm	N/D

* Hazardous per OSHA criteria
 ** Internal exposure guideline - 10 mg/m3 (8 hour TWA) effective 02/06/93

PHYSICAL PROPERTIES

Appearance: Colorless to light yellow liquid
 Solubility: Miscible with water and most solvents
 Boiling Point: 82.5°C
 pH: 3-4
 Vapor Density: 2.07
 Viscosity: N/D

Melting Point: -89.5°C
 Vapor Pressure: 33 mmHg @ 20°C
 Density: 0.82

FIRE AND EXPLOSION DATA

Flash Point: 53°F(cc)
 Extinguishing Media: Use appropriate medium for underlying cause of fire
 Special Fire Fighting Procedures: Wear protective clothing and self-contained breathing apparatus.
 Unusual Fire/Explosion Hazards: N/D

REACTIVITY

Incompatibility: Oxidizing materials
 Hazardous Decomposition or By-products: N/D
 Conditions to Avoid: Avoid excessive heat, keep away from sparks, and open flames.

HEALTH HAZARD DATA

Routes of Entry: Inhalation - Yes Skin - No Ingestion - No
 Oral Toxicity: N/D. LD50 = 1,000-25,000 mg/kg in mice, dogs and rats for gibberellic acid. LD50 = 3,600-7,850 mg/kg in mice, rats, rabbits, and dogs for isopropanol. Fatal dose of isopropanol is >100 ml (humans).
 Dermal Toxicity: N/D. LD50 >2,000 mg/kg in rabbits for gibberellic acid. LD50 = 10.2-16.4 ml/kg in rabbits for isopropanol.

2

ProGibb 4%

MATERIAL SAFETY DATA SHEET

HEALTH HAZARD DATA (continued)

Inhalation Toxicity: N/D. LC50 >1.7 mg/L/4 hours in rats. Mice and guinea pigs survived exposure to gibberellic acid as an aerosol formulation at maximum obtainable conditions (0.283 mg/l) for 1.5 hours. LC50 = 16,000 ppm/8H in rats for isopropanol.

Corrosiveness: No

Dermal Irritation: N/D. Mild redness was produced in a skin irritation test in rabbits; repeated or prolonged skin contact with isopropyl alcohol may cause dermatitis.

Ocular Irritation: Irritant. Severe corneal injury reported in an eye irritation test in rabbits; isopropyl alcohol vapors are irritating to the eyes.

Dermal Sensitization: N/D. A formula containing gibberellic acid was not considered a sensitizer in a sensitization study in guinea pigs.

Special Target Organ Effects: N/D. Gibberellic acid is a plant growth hormone that has been reported to have estrogenic and androgenic activity in animals. In reproduction studies in rats, no maternal or fetal toxicity, or other adverse effects to the fetus were noted following large dosages (1,000 mg/kg/day) of gibberellic acid. Isopropanol is a central nervous system depressant.

Carcinogenicity: NTP - NL IARC - NL OSHA - NL ACGIH - NL

Signs/Symptoms of Exposure: N/D. Overexposure to isopropyl alcohol by inhalation or ingestion can cause flushing, headache, dizziness, mental depression, nausea, vomiting, drowsiness, anesthesia, and coma. Vapor levels >400 ppm for 3-5 minutes cause mild irritation to eyes, nose, and throat. Dryness or cracking of skin may occur after prolonged or repeated contact.

Medical Conditions Aggravated by Exposure: N/D. Preexisting eye, skin, or respiratory disease.

Emergency/First Aid Procedures: Remove from source of exposure. If skin or eye contact occurs flush with copious amounts of water. If irritation persists or signs of toxicity occur, seek medical attention. No known antidote. Provide symptomatic/supportive care as necessary.

SPECIAL PROTECTION INFORMATION

Ventilation: Use local ventilation to control vapors at their source(s)

Respirator: Approved respirator for organic vapors, full face style recommended for high concentrations

Gloves: Butyl Rubber

Eye Protection: Goggles, face shield, or full face resp.

Other Protection: Rubber Apron

SPECIAL HANDLING AND STORAGE

Special Precautions: Avoid excessive storage temperatures and direct sunlight. Ground and bond all drums and equipment. Keep material dry.

Spill or Release Procedures: Recover product and place in appropriate container for disposal. Ventilate and wash area.

Waste Disposal: Dispose of product in accordance with federal, state, and local regulations.

Other Handling: N/D

LEGEND

N/A = Not Applicable L = Listed (R) = A registered trademark of Abbott Laboratories
 N/D = Not Determined C = Ceiling (TM) = A trademark of Abbott Laboratories
 NL = Not Listed S = Short Term

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