

**Formal Recommendation by the
National Organic Standards Board (NOSB)
to the National Organic Program (NOP)**

Date: December 2, 2011

Subject: Petition to add odorized propane to the National List, Synthetic substances allowed for use in organic crop production, § 205.601(g)(3) – Rodenticides.

Chair: Tracy Miedema

The NOSB hereby recommends to the NOP the following:

Other - Not to add odorized propane to the National List

Statement of the Recommendation (Including Recount of Vote):

The motion to list odorized propane on the National List failed by a vote of 9 yes, 5 no. Odorized propane was classified as synthetic by a vote of 14 yes, 0 no.

Rationale Supporting Recommendation (including consistency with OFPA and NOP):

The NOSB recommends against approving the petition because: (1) the use does not fit into any of the categories of allowable uses of synthetics in 7 U.S.C. § 6517(c)(1)(B)(i), and (2) the use fails the criteria for impacts on humans and the environment, essentiality, and compatibility with organic and sustainable agriculture.

NOSB Vote: Propane is a nonsynthetic.

Moved: John Foster		Second: Steve DeMuri		
Yes: 0	No: 14	Abstain: 0	Absent: 0	Recusal: 0

NOSB Vote: Add odorized propane to § 205.601 Synthetic substances allowed for use in organic crop production (g) As rodenticides.

Moved: John Foster		Second: Tina Ellor		
Yes: 9	No: 5	Abstain: 0	Absent: 0	Recusal: 0

NOSB COMMITTEE RECOMMENDATION

Form NOPLIST1. Committee Transmittal to NOSB

For NOSB Meeting: November-December, 2011

Substance: odorized propane

Committee: Crops ☒ Livestock ☐ Handling ☐ Petition is for: odorized propane

on the National List § 205.601

A. Evaluation Criteria (Applicability noted for each category; Documentation attached) **Criteria Satisfied? (see B below)**

- | | |
|--|--|
| 1. Impact on Humans and Environment | Yes ☐ No ☒ N/A ☐ |
| 2. Essential & Availability Criteria | Yes ☐ No ☒ N/A ☐ |
| 3. Compatibility & Consistency | Yes ☐ No ☒ N/A ☐ |
| 4. Commercial Supply is Fragile or Potentially Unavailable as Organic (only for 606) | Yes ☐ No ☐ N/A ☒ |

B. Substance Fails Criteria Category: 1,2,3__ Comments:

c. Codex. See following evaluation. Many adverse impacts on ecological system, including soil structure and biology and predators; many other available practices; questionable efficacy because collapsed burrows may be reestablished; incompatible with organic and sustainable practices. See checklist and references for details.

D. Proposed Annotation (if any): _____

Basis for annotation: To meet criteria above: _____ Other regulatory criteria: _____ Citation: _____

D. Recommended Committee Action & Vote, including classification recommendation (State Actual Motion):

Add odorized propane for rodent control to § 205.601

Classification of the material: Synthetic ☒ Non- synthetic _____ Absent: _____ Abstain _____

Motion by: _____ Seconded: _____ Yes: _____ No: _____ Absent: _____ Abstain: _____

Recommended Committee Action & Vote _____

Motion by: John Foster Seconded: Tina Ellor Yes: 3 No: 4 Absent: 0 Abstain: 0

Crops	☒	Agricultural		Allowed ¹	
Livestock		Non-Synthetic		Prohibited ²	
Handling		Synthetic	☒	Rejected ³	X
No restriction		Commercially Un-Available as Organic ¹		Deferred ⁴	

1) Substance voted to be added as "allowed" on National List to § 205. _____ with Annotation (if any) _____

2) Substance to be added as "prohibited" on National List to § 205. _____ with Annotation (if any) _____

Describe why a prohibited substance: _____

3) Substance was rejected by vote for amending National List to § 205. 201 _____ Describe why material was rejected: Many adverse impacts on ecological system, including soil structure and biology and predators; many other available practices; questionable efficacy because collapsed burrows may be reestablished; incompatible with organic and sustainable practices. It does not fit any allowable category of synthetic input under 7 U.S.C. § 6517(c)(1)(A)

4) Substance was recommended to be deferred because _____

If follow-up needed, who will follow up _____

E. Approved by Committee Chair to transmit to NOSB:

Committee Chair

Date

EVALUATION CRITERIA FOR SUBSTANCES ADDED TO THE NATIONAL LIST

Category 1. Adverse impacts on humans or the environment? Substance: odorized propane

Question	Yes	No	N/A ¹	Documentation (TAP; petition; regulatory agency; other)
1. Are there adverse effects on environment from manufacture, use, or disposal? [§205.600 b.2]	X			Propane is a byproduct of natural gas processing and petroleum refining. Most of the U.S. supply of liquid propane is produced in the United States. Methane and other hydrocarbons, including propane, are obtained by separation from natural gas using a combination of increased pressure and decreased temperature. Propane is also a byproduct of crude petroleum refining, which uses chemical processes to break down and modify the structure of petroleum compounds (MEA, 2006). TR 182-186
2. Is there environmental contamination during manufacture, use, misuse, or disposal? [§6518 m.3]	X			Propane is prohibited for use in organic handling due to its potential adverse effect on human health and the environment and because it is a synthetic byproduct of the petrochemical industry (USDA, 2009b) TR 116-118
3. Is the substance harmful to the environment and biodiversity? [§6517c(1)(A)(i);6517(c)(2)(A)i]	X			Franklin ground squirrels are an endangered species ¹ . The petitioned method of collapsing burrows using propane may injure or kill nontarget species, including many predators of rodents, occupying or living nearby the treated burrows. TR 272-273 Inhabitants of burrows include burrowing owls, black footed ferrets, snakes, tiger salamanders, and others. ^{2,3}

¹ <http://www.ag.purdue.edu/entm/wildlifehotline/pages/groundsquirrels.aspx>

² “Belowground, the burrows are sheltered and cool no matter the weather above. This comfortable climate draws a diverse cast of grassland animals—mice, voles, tarantulas, and several species of beetles that live exclusively in rodent tunnels. Then there are the local amphibians. Ground squirrels actually make it possible for moisture-loving amphibians to live in the hot, dry hills of the Diablo Range. As the weather warms and ponds dry up, California red-legged frogs, western toads, ensatina salamanders, and California tiger salamanders retreat to the cool refuge of squirrel burrows—often while the squirrels are still living inside. The frogs and toads come and go, but the taxicab-tinted tiger salamanders move in for the long haul: they stay underground for up to ten months each year, emerging only in winter to breed.

“With this crowd, squirrel burrows are almost mini-ecosystems of their own. Worms and beetles crawling out of the walls may get eaten by the amphibians, while mice and voles go after the squirrels’ caches of nuts and seeds. Larger creatures—burrowing owls, coyotes, and San Joaquin kit foxes—often enlarge abandoned burrows and convert them into dens.

“But ground squirrels do even more for grassland ecosystems than spread seeds and build shelters. Plentiful and prolific, they are a dinnertime mainstay for most of California’s savanna predators. Local badger populations depend almost entirely on ground squirrel colonies, says retired district naturalist Ron Russo. And studies of golden eagles in the park district show that ground squirrels may comprise up to 70 percent of their diets when the birds are rearing their young. DiDonato says the sheer abundance of ground squirrels around San Antonio Reservoir and Sunol Regional Wilderness supports the densest population of nesting golden eagles anywhere in the world. And back when grizzly bears prowled California, they dug out entire colonies for a snack.” Lord of the Burrows: The Incredible Edible Ground Squirrel, <http://baynature.org/articles/jan-mar-2008/lord-of-the-burrows>

4. Does the substance contain List 1, 2, or 3 inerts? [§6517 c (1) (B)(ii); 205.601(m)2]		X		
5. Is there potential for detrimental chemical interaction with other materials used? [§6518 m.1]	?			No interactions between propane and other common substances used in agriculture were identified. TR 265-266
6. Are there adverse biological and chemical interactions in agro- ecosystem? [§6518 m.5]	X			The petitioned method of collapsing burrows using propane may injure or kill nontarget species, including many predators of rodents, occupying or living nearby the treated burrows. TR 272-273
7. Are there detrimental physiological effects on soil organisms, crops, or livestock? [§6518 m.5]	X			The petitioned method of collapsing burrows using propane may injure or kill nontarget species, including predators of rodents, occupying or living nearby the treated burrows. TR 272-273 The force produced by the propane/oxygen reaction may disturb the soil and soil organisms due to the concussive forces and/or loud noises generated. If a fire is produced from the propane explosion, soil structure may be altered and soil organic matter may be lost or consumed. Reduced soil porosity and increased soil pH due to alterations in soil chemistry may also be expected. These effects can indirectly affect water retention of the soil and increase erosion. Because propane is readily degraded by soil bacteria, soil disturbance related to propane itself would not be expected. TR 276-284
8. Is there a toxic or other adverse action of the material or its breakdown products? [§6518 m.2]	X			Explosivity.
9. Is there undesirable persistence or concentration of the material or breakdown products in environment?[§6518 m.2]		X		Readily broken down by soil microorganisms within 24 hours. TR 200-201 When exploded, all of the propane is consumed in the reaction (CCOF, 2010). TR 77 All of the propane is consumed in the reaction (CCOF, 2010). TR 256-257
10. Is there any harmful effect on human health? [§6517 c (1)(A) (i) ; 6517 c(2)(A)I; §6518 m.4]	X			The use of propane/oxygen explosion devices also poses a physical safety risk to the operator. Improper use and/or inadequate safety gear could result in injury from explosion, flying debris, or fire (Meyer Industries, 2010).

³ “Interestingly enough, the survival of many other species seems to hinge on the survival of the prairie dog. About 90% of the [black footed] ferret's diet consists of prairie dogs. In addition, the golden eagle, Ferruginous Hawk, and swift fox diets include a large percentage of prairie dogs. According to Nicole Rosmarino/Southern Plains Land Trust,⁽¹²⁾ the mountain plover appears to be a prairie dog obligate or at the very least is highly dependent on prairie dogs for survival, using the borrows for breeding, nesting, and feeding. Burrowing owls, prairie falcons badgers and a host of other prairie animals are associated with prairie dog colonies. In fact, some ecologists consider the prairie dog to be a keystone species of the prairie⁽¹²⁾. According to Miller et. al,⁽¹³⁾ nearly 170 species rely on prairie dog colonies to some extent for their very survival. Miller further concludes that the prairie dog fits the definition of a keystone species because prairie dogs affect the ecosystem structure, function, and composition in a way that is not duplicated by other species.”

				TR 308-310
11. Is there an adverse effect on human health as defined by applicable Federal regulations? [205.600 b.3]			X	
12. Is the substance GRAS when used according to FDA's good manufacturing practices? [§205.600 b.5]			X	
13. Does the substance contain residues of heavy metals or other contaminants in excess of FDA tolerances? [§205.600 b.5]			X	

¹ If the substance under review is for crops or livestock production, all of the questions from 205.600 (b) are N/A—not applicable.

Category 2. Is the Substance Essential for Organic Production? Substance: odorized propane

Question	Yes	No	N/A ¹	Documentation (TAP; petition; regulatory agency; other)
1. Is there a natural source of the substance? [§205.600 b.1]			X	.
2. Is there an organic substitute? [§205.600 b.1]			X	
3. Is the substance essential for handling of organically produced agricultural products? [§205.600 b.6]			X	
4. Is there a wholly natural substitute product? [§6517 c (1)(A)(ii)]				CO2? TR 325-326
5. Is the substance used in handling, not synthetic, but not organically produced? [§6517 c (1)(B)(iii)]			X	
6. Are there any alternative substances? [§6518 m.6]	X			CO2 asphyxiant, vit D3, TR 316-333
7. Is there another practice that would make the substance unnecessary? [§6518 m.6]	X			Trapping, supporting predator habitat, flooding, ecologically-based rodent management TR 340-367 See additional sources. ⁴ Ground squirrels find and reopen collapsed burrows. ⁵ Habitat modification.. ⁶ Encouraging predators. ⁷

¹ If the substance under review is for crops or livestock production, all of the questions from 205.600 (b) are N/A—not applicable.

⁴ <http://icwdm.org/wildlife/pocketgopher.asp>

<http://www.unitedwildlife.com/AnimalsPrairieDogs.html>

<http://www.ipm.ucdavis.edu/PMG/PESTNOTES/pn7438.html>

⁵ <http://www.ipm.ucdavis.edu/PMG/PESTNOTES/pn7438.html>

⁶ <http://environmentalchemistry.com/yogi/environmental/200704prairiedogcontrollethal.html>

<http://www.ipm.ucdavis.edu/PMG/PESTNOTES/pn7438.html>

<http://www.ipm.ucdavis.edu/PMG/PESTNOTES/pn7433.html><http://environmentalchemistry.com/yogi/environmental/200706prairiedogreconciliation.html>

⁷ <http://people.uleth.ca/~michener/predators.htm>

<http://www.ipm.ucdavis.edu/PMG/PESTNOTES/pn7433.html>

<http://yardener.com/YardenersPlantProblemSolver/DealingWithPestAnimals/Gophers/SolutionsForGophers/DispatchTheGopher>

Category 3. Is the substance compatible with organic production practices?Substance: odorized propane

Question	Yes	No	N/A ¹	Documentation (TAP; petition; regulatory agency; other)
1. Is the substance compatible with organic handling? [§205.600 b.2]			X	
2. Is the substance consistent with organic farming and handling, and biodiversity? [§6517 c (1)(A)(iii); 6517 c (2)(A)(ii)]		X		Not listed use of synthetic. Fossil fuel source. Dangers to soil organisms and predators of rodents.
3. Is the substance compatible with a system of sustainable agriculture? [§6518 m.7]		X		Fossil fuel source. Dangers to soil organisms and predators of rodents.
4. Is the nutritional quality of the food maintained with the substance? [§205.600 b.3]			X	
5. Is the primary use as a preservative? [§205.600 b.4]			X	
6. Is the primary use to recreate or improve flavors, colors, textures, or nutritive values lost in processing (except when required by law, e.g., vitamin D in milk)? [205.600 b.4]			X	
7. Is the substance used in production, and does it contain an active synthetic ingredient in the following categories:		X		
a. copper and sulfur compounds;		X		
b. toxins derived from bacteria;		X		
c. pheromones, soaps, horticultural oils, fish emulsions, treated seed, vitamins and minerals?		X		
d. livestock parasiticides and medicines?		X		
e. production aids including netting, tree wraps and seals, insect traps, sticky barriers, row covers, and equipment cleaners?		X		

¹ If the substance under review is for crops or livestock production, all of the questions from 205.600 (b) are N/A—not applicable.

Category 4. Is the commercial supply of an agricultural substance as organic, fragile or potentially unavailable? [§6610, 6518, 6519, 205.2, 205.105 (d), 205.600 (c) 205.2, 205.105 (d), 205.600 (c)]

Substance - _____

Question	Yes	No	N/A	Comments on Information Provided (sufficient, plausible, reasonable, thorough, complete, unknown)
1. <u>Is the comparative description provided</u> as to why the non-organic form of the material /substance is necessary for use in organic handling?			X	
2. Does the current and historical industry information, research, or evidence provided explain how or why the material /substance cannot be obtained organically in the appropriate form to fulfill an essential function in a system of organic handling?			X	
3. Does the current and historical industry information, research, or evidence provided explain how or why the material /substance cannot be obtained organically in the appropriate quality to fulfill an essential function in a system of organic handling?			X	
4. Does the current and historical industry information, research, or evidence provided explain how or why the material /substance cannot be obtained organically in the appropriate quantity to fulfill an essential function in a system of organic handling?			X	
5. Does the industry information provided on material / substance non-availability as organic, include (but not limited to) the following: a. Regions of production (including factors such as climate and number of regions);			X	
b. Number of suppliers and amount produced;			X	
c. Current and historical supplies related to weather events such as hurricanes, floods, and droughts that may temporarily halt production or destroy crops or supplies;			X	
d. Trade-related issues such as evidence of hoarding, war, trade barriers, or civil unrest that may temporarily restrict supplies; or			X	
e. Are there other issues which may present a challenge to a consistent supply?			X	