

NOSB COMMITTEE RECOMMENDATION

Form NOPLIST1. Committee Transmittal to NOSB

For NOSB Meeting: May 2009

Substance: Propane - CAS Reg. 74-98-6

Committee: Crops ☐ Livestock ☐ Handling ☒ Petition is for inclusion of Propane as a processing aid on the National List § 205.605 (b).

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. Not or Inconsistently Available as Organic | Yes ☐ | No ☐ | N/A ☒ |

B. Substance Fails Criteria Category: 1, 2, and 3.

C. Proposed Annotation (if any): _____

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

D. Recommended Committee Action & Vote (State Motion): Move to add Propane to the National List section 205.605(a).

Motion by: Steve DeMuri Seconded: Katrina Heinze Yes: 0 No: 5 Absent: 1 Abstain: 0

Crops		Agricultural		Allowed ¹	
Livestock		Non-Synthetic		Prohibited ²	
Handling	☒	Synthetic	☒	Rejected ³	☒
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 adding to the National List in § 205. 605(b). Substance fails Category 1 by nature of it's potential adverse effect on human health and it's potential environmental impacts, and fails the "essential" component of Category 2. As a synthetic by-product of the petrochemical industry, it also fails Category 3 Compatibility criteria. Although propane could replace currently listed C02 as a propellant, it is not deemed essential, because consumers of organic cooking oils can use pump sprays without any propellant for the same result.

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:

Steve DeMuri
Committee Chair

Date: March 14, 2008

NOSB EVALUATION CRITERIA FOR SUBSTANCES ADDED TO THE NATIONAL LIST
Category 1. Adverse impacts on humans or the environment? Substance – 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			According to the Technical Evaluation Report, page 3, dated 2/6/09, studies have been done that show no significant effects on the environment from propane. However, the petition claims some contribution of VOC to the atmosphere when propane is used as a propellant, but 30 – 40% less than is currently produced by a CO ₂ and ethyl alcohol mixture, the current propellant used for organic cooking sprays. In addition, this substance is a by-product of the petrochemical industry. Due to the effects of exploration and drilling is destructive to the environment and not consistent with sustainable practices.
2. Is there environmental contamination during manufacture, use, misuse, or disposal? [§6518 m.3]	X			Some during use, according to the petition, none mentioned during manufacture or disposal. Also, see additional paragraph above.
3. Is the substance harmful to the environment? [§6517c(1)(A)(i);6517(c)(2)(A)i]	X			See above.
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]		X		None indicated in the TR, or in the petition.
6. Are there adverse biological and chemical interactions in agro-ecosystem? [§6518 m.5]			X	
7. Are there detrimental physiological effects on soil organisms, crops, or livestock? [§6518 m.5]			X	
8. Is there a toxic or other adverse action of the material or its breakdown products? [§6518 m.2]	X			Highly Flammable and explosive, can cause frostbite in liquid form, asphyxiant. Page 1 of the TR.
9. Is there undesirable persistence or concentration of the material or breakdown products in environment?[§6518 m.2]		X		Page 3 of the TR – Propane released into the environment dissipates rapidly.
10. Is there any harmful effect on human health? [§6517 c (1)(A)(i) ; 6517 c(2)(A)i; §6518 m.4]	X			Page 1 of the TR describes that propane is highly flammable and explosive, so misuse could cause explosions or fire. Direct contact with the liquid may cause frostbite. Page 4 of the TR states that the substance is an asphyxiant.,
11. Is there an adverse effect on human health as defined by applicable Federal regulations? [205.600 b.3]	X			Overexposure can cause dizziness, confusion, excitation, and asphyxia. Page 1 or the TR.
12. Is the substance GRAS when used according to FDA's good manufacturing practices? [§205.600 b.5]	X			FDA considers propane to be GRAS as a food ingredient (21 CFR 184.1655 and 170.3 (0) (25)) when used in accordance with current Good Manufacturing Practices. Page 2 of the TR.
13. Does the substance contain residues of heavy metals or other contaminants in excess of FDA tolerances? [§205.600 b.5]	X			Page 4 or the TR states that propane may contain residues of heavy metals and other contaminants.

¹If 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 – Propane

Question	Yes	No	N/A ¹	Documentation (TAP; petition; regulatory agency; other)
1. Is the substance formulated or manufactured by a chemical process? [6502 (21)]	X			Page 2 of the TR- Propane is a constituent of natural gas and crude petroleum and is separated during the production of gasoline using fractional distillation under pressure. As such it is considered a synthetic substance.
2. Is the substance formulated or manufactured by a process that chemically changes a substance extracted from naturally occurring plant, animal, or mineral, sources? [6502 (21)]	X			TR Page 3 – Propane is a naturally occurring component of natural gas and crude oil.
3. Is the substance created by naturally occurring biological processes? [6502 (21)]		X		TR page 3 – Propane, along with other hydrocarbons such as crude oil, butane, gasoline, etc., is created by the decomposition of organic matter over many years. This decomposition, combined with heat and pressure, transforms the soft parts of plants and animals into solid, liquid, or gaseous hydrocarbons known as fossil fuels - coal, crude oil, or natural gas. Propane is isolated and extracted when crude oil is refined. As such it is considered a synthetic substance.
4. Is there a natural source of the substance? [§205.600 b.1]	X			TR page 3 – Propane is produced by distillation from natural gas, or is produced as a by-product of gasoline production from crude oil. Both natural gas and crude oil are natural sources.
5. Is there an organic substitute? [§205.600 b.1]		X		Listed substance CO ₂ is used as a propellant in organic cooking sprays currently, but there is no organic substitute..
6. Is the substance essential for handling of organically produced agricultural products? [§205.600 b.6]		X		
7. Is there a wholly natural substitute product? [§6517 c (1)(A)(ii)]			X	Propane is produced from natural sources, therefore could be construed as natural in the conventional world. Page 3 of the TR.
8. Is the substance used in handling, not synthetic, but not organically produced? [§6517 c (1)(B)(iii)]	X			
9. Is there any alternative substances? [§6518 m.6]	X			Page 3 of the TR – Compressed air and nitrogen could be used. Petition states listed CO ₂ is currently used for the same purpose.
10. Is there another practice that would make the substance unnecessary? [§6518 m.6]	X			The use of commercially available pump sprayers could substitute for propane propelled cooking oils. Consumers would add the oil of their choice to a manually pumped device for spraying onto cooking surfaces.

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Category 3. Is the substance compatible with organic production practices? Substance – 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? [§6517 c (1)(A)(iii); 6517 c (2)(A)(ii)]		X		
3. Is the substance compatible with a system of sustainable agriculture? [§6518 m.7]		X		
4. Is the nutritional quality of the food maintained with the substance? [§205.600 b.3]	X			Used as a propellant, propane has no effect on the nutritional quality of the food.
5. Is the primary use as a preservative? [§205.600 b.4]		X		Substance is to be used as a propellant, not a preservative.
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		Substance is to be used as a propellant.
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;				
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		

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Category 4. Is the agricultural substance inconsistently or not commercially available as organic?
Substance – Propane

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 <u>form</u> 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 <u>quality</u> 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 <u>quantity</u> 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:			X	
a. Regions of production (including factors such as climate and number of regions);				
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	