

Pesticides: Regulating Pesticides

You are here: <u>EPA Home</u> <u>Pesticides</u> <u>Regulating Pesticides</u> <u>Biopesticides</u> <u>Registration Tools</u> Minimum Risk Pesticides under FIFRA Section 25(b)

Minimum Risk Pesticides

Minimum risk pesticides are a special class of pesticides that are not subject to federal registration requirements because their ingredients, both active and inert, are *demonstrably* safe for the intended use. These Web pages provide detailed information for pesticide companies who want to register minimum risk pesticide products.

Criteria for FIFRA 25(b) Exemption

Minimum risk pesticides that meet certain criteria are exempt from federal registration under section 25(b) of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). The U.S. Environmental Protection Agency (EPA) does not review or register pesticides that satisfy the 25(b) criteria, though registration is required by most states. For information on minimum risk pesticides in your state, please contact <u>your state's</u> pesticide registration office.

To satisfy the conditions required for federal minimum risk status, all five of the following conditions must be met:

- **Condition 1:** The product must contain **only** <u>active ingredients</u> <u>that are listed in the table</u> below. The active ingredient of a product is the ingredient that kills, destroys, mitigates, or repels pests named on the product label.
- **Condition 2:** The product must contain **only** those inert ingredients that have been classified by EPA as List 4A "Inert Ingredients of Minimal Concern." An explanation of the Inert Ingredients of Minimal Concern and links to List 4A are available on EPA's <u>Permitted Inerts</u> Web page.
- **Condition 3:** All of the ingredients (both active and inert) must be listed on the label. The active ingredient(s) must be listed by name and percentage by weight. Each inert ingredient must be listed by name.
- **Condition 4:** The label cannot include any false or misleading statements, and claims that minimum risk pesticides protect human or public health are prohibited. For example, since these products are exempt from federal registration, label language implying federal registration, review or endorsement, such as "It is a violation of federal law to use this product in a manner inconsistent with the label," or the use of an EPA registration or establishment number is not allowed.

Minimum Risk Pesticides

- Criteria for FIFRA 25(b) Exemption
- Permitted Inerts
- State Pesticide Registration Contacts
- Pesticide Registration Notice
- Frequent Questions

• **Condition 5:** In general, public health claims are prohibited. Minimum risk pesticide labels may not bear claims to control rodent, insect or microbial pests in a way that links the pests with any specific disease. EPA recommends that anyone considering manufacturing, distributing, or selling minimum risk antimicrobial pesticide products first contact the Pesticide Program's Antimicrobial Division ombudsman, who can assist in ensuring that proposed antimicrobial minimum risk products meet the strict requirements for exemption from registration.

Additionally, EPA requires the establishment of <u>maximum residue limits</u>, <u>which EPA calls</u> <u>tolerances</u>, <u>or exemptions from the requirement of a tolerance</u> for all pesticides intended for use in a manner that may result in residues in food or feed.

Active Ingredients Exempted Under 25(b) of the Federal Insecticide, Fungicide, & Rodenticide Act

* indicates exempt active ingredients that are also exempt from pesticide residue tolerance requirements

		Inactive Ingredient
Castor oil (U.S.P. or equivalent)*	Linseed oil	= Inactive Ingredient in Avenger Organics
Cedar oil	Malic acid	Bed Bug Killer
Cinnamon and cinnamon oil*	Mint and mint oil	
Citric acid*	Peppermint and peppermint oil*	= Active Ingredients in Avenger Organics
Citronella and Citronella oil	2-Phenethyl propionate (2-phenylethyl propionate)	Bed Bug Killer
Cloves and clove oil*	Potassium sorbate	
Corn gluten meal*	Putrescent whole egg solids	
Corn oil*	Rosemary and rosemary oil*	
Cottonseed oil*	Sesame (includes ground sesame plant) and sesame oil*	
Dried Blood	Sodium chloride (common salt) *	
Eugenol	Sodium lauryl sulfate	
Garlic and garlic oil*	Soybean oil	
Geraniol*	Thyme and thyme oil*	
Geranium oil	White pepper	
Lauryl sulfate	Zinc metal strips (consisting solely of zinc metal and impurities)	
Lemongrass oil		

Products Intended for the Control of Public Health Pests Must Be Effective

EPA received a petition from the Consumer Specialty Products Association (CSPA) dated March 15, 2006, requesting that the Agency exclude from the minimum risk pesticide exemption those pesticides that claim to control "pests of significant public health importance" and require an abbreviated registration for minimum risk products that are to be used for the control of public health pests. On September 13, 2006, EPA published in the Federal Register a Notice of Availability and Request for Comments on the petition allowing a 60-day comment period. On December 6, 2006, EPA reopened the comment period

To satisfy the conditions required for federal minimum risk status, all five of the following conditions must be met:

Condition 1: The product must contain only active ingredients that are listed in the table below. The active ingredient of a product is the ingredient that kills, destroys, mitigates, or repels pests named on the product label.

Avenger Organics Natural Bed Bug Killer complies - See A

Condition 2: The product must contain only those inert ingredients that have been classified by EPA as List 4A "Inert Ingredients of Minimal Concern." An explanation of the Inert Ingredients of Minimal Concern and links to List 4A are available on EPA's Permitted Inerts Web page. **Avenger Organics Natural Bed Bug Killer complies - See B**

Condition 3: All of the ingredients (both active and inert) must be listed on the label. The active ingredient(s) must be listed by name and percentage by weight, Each inert ingredient must be listed by name, **Avenger Organics Natural Bed Bug Killer complies - See A & B**

Condition 4: The label cannot include any false or misleading statements, and claims that minimum risk pesticides protect human or public health are prohibited. For example, since these products are exempt from federal registration, label language implying federal registration, review or endorsement, such as "It is a violation of federal law to use this product in a manner inconsistent with the label," or the use of an EPA registration or establishment number is not allowed. **Avenger Organics Natural Bed Bug Killer complies**

Condition 5: In general, public health claims are prohibited. Minimum risk pesticide labels may not bear claims to control rodent, insect or microbial pests in a way that links the pests with any specific disease. **Avenger Organics Natural Bed Bug Killer complies**





DIRECTIONS FOR USE: SHAKE WELL BEFORE USING

IT IS A VIOLATION OF STATE LAW TO USE THIS PRODUCT IN A MANNER INCONSISTENT WITH ITS LABELING.

DIRECTIONS: Shake well before using. Spray directly onto bed bug infested areas including bedding, carpet, walls, cracks, crevices, interior of night stands and dresser drawers. Follow-up in 1-2 weeks after application in same areas. Be careful not to get in the eyes or on the skin. May cause stains and/or burn some susceptible plants. Always test an area before full-application.

Avenger Organics Natural Bed Bug Killer controls bed bugs when used as directed.

NATURAL BED BUG KILLER CONTAINS ONLY 100% EPA EXEMPTED INGREDIENTS

This product is exempt from registration with the Federal EPA under section 25(b) of FIFRA, and as such, is not registered with the Environmental Protection Agency. Cutting Edge Formulations, Inc. represents that this product and it's ingredients qualify for exemption from registration under FIFRA.

STORAGE & DISPOSAL

Always store in a cool dry area inaccessible to children or pets. Store and transport in an upright position. *Disposal if empty:* Do not reuse container. Place in trash or offer for recycling if available.

FIRST AID

If on skin, wash with soap and water. Have the product container or label with you when calling a poison control center or doctor or going for treatment. If Swallowed Call a poison control center or doctor immediately for treatment advice. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

NOTICE: Buyer assumes all responsibility for safety and use not in accordance with directions.

Manufactured by: Cutting Edge Formulations, Inc. 3057 Summer Oak Place Buford, GA 30518 (866)906-9333

Made in U.S.A.





for an additional 30 days at the request of CropLife America. During the public comment period, the Agency received approximately 60 comments, both in support of and in opposition to the petition.

EPA has analyzed the comments on the petition and concluded that public health products must be supported by evidence that they are effective against the target pest. EPA is now looking at options to ensure that minimum risk public health pesticides that are otherwise exempted from regulation are effective. CSPA's letter of June 11, 2007, (6 pp, 3.45 MB, about PDF) suggested that EPA engage in expedited rulemaking, including promulgating an interim final rule without notice and comment. EPA's response letter (2 pp, 25 K, about PDF) responds to that letter as well as the March 15 petition.



Pesticides: Regulating Pesticides

You are here: <u>EPA Home Pesticides Regulating Pesticides Biopesticides Registration Tools Minimum Risk Pesticides under FIFRA Section 25(b)</u> List of Minimal Risk Inert Ingredients (List 4A)

Minimum Risk Pesticides: Permitted Inerts

In addition to <u>active ingredients from the approved 25(b) list</u>, federal regulations state that minimum risk pesticides may only contain the minimal risk inert ingredients noted in List 4A. Minimum risk pesticide producers may use List 4A inert ingredients in whatever amounts they believe will result in an effective product when combined with 25(b) active ingredients. Inert ingredients are defined as all ingredients that are not active ingredients. Active ingredients are the ingredients that kill, repel, or mitigate the pest.

EPA's determination that an inert ingredient poses minimal risk is based on the following:

- The Agency's recognition of the overall safety of the substance (such as very low toxicity or being practically non-toxic)
- Consideration of the widely available information on the substance's known properties
- A history of safe use under reasonable circumstances

Minimum risk pesticide labels must include the name of each inert ingredient, as well as listing the name and percentage by weight of active pesticidal ingredients.

List 4A sorted by chemical name

Can a chemical be an inert ingredient in one pesticide product and an active ingredient in another?

It is possible for a chemical to be an inert ingredient in one pesticide product and an active ingredient in another pesticide product. Minimum risk pesticide manufacturers must be extremely careful to never use an inert ingredient from List 4A as an active ingredient unless the ingredient is also on the 25(b) active ingredient list.

Examples:

Citric acid and several essential oils are examples of minimum risk pesticide ingredients that can be found on both the 25(b) active ingredient list and List 4A.

Vinegar is a good example of a minimum risk inert ingredient that can pose a hazard if improperly and

Minimum Risk Pesticides

- Criteria for FIFRA 25(b) exemption
- Permitted Inerts
- State Pesticide Registration Contacts
- Pesticide Registration Notice
- Frequent Questions

illegally used as an active ingredient in an unregulated 25(b) pesticide product. EPA added vinegar (maximum of 8% acetic acid in solution) to List 4A to give manufacturers a safe means of controlling pH in minimum risk pesticide products.

When used as an inert ingredient to buffer pH, the quantity of vinegar in a pesticide product is not expected to pose hazards. However, vinegar with an acetic acid concentration greater than 8% is a potent herbicide and at higher concentrations can cause severe burns.

Because of this potential safety concern, vinegar is not listed as a minimum risk active ingredient and may not be used as an active ingredient in unregistered, minimum risk pesticides. The same is true of any List 4A inert that coincidentally has some sort of pesticidal property: if it is not on the 25(b) active ingredient list, it may not be used as an active ingredient in minimum risk pesticides.

Enforcement actions can result from violations of federal pesticide law

Minimum risk pesticide manufacturers sometimes market pesticides in which List 4A inert ingredients act as active ingredients in the product formulation even though they are listed as inerts on the label. The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) gives EPA the authority to take enforcement action if the purpose or intent of a minimum risk pesticide inert ingredient is to act as an active ingredient.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY WASHINGTON, D.C. 20460

OFFICE OF PREVENTION, PESTICIDES AND TOXIC SUBSTANCES

Inert Ingredients Eligible for FIFRA 25(b) Pesticide Products Last Updated March 3, 2009

Provided below are the inert ingredients that are eligible for inclusion in pesticide products under the <u>Federal Insecticide</u>, <u>Fungicide</u>, <u>and Rodenticide Act (FIFRA)'s Section 25(b)</u>. These minimal risk inert ingredients are referred to as "4A" under <u>Pesticide Registration Notice 2000-6</u>.

- 1. Any inert ingredient described in 40 CFR 180.950 (a),(b), or (c) may be used in FIFRA Section 25(b) pesticide products applied to food use sites (e.g., food crops, animals used for food) and in FIFRA Section 25(b) pesticide products applied to nonfood use sites (e.g., ornamental plants, highway right-of-ways, rodent control).
- 2. In addition to (1) above, the following inert ingredients are also eligible for inclusion in FIFRA Section 25(b) pesticide products. These ingredients are listed by CAS Registry Number and Chemical Name (common names are given, with systematic names included as synonyms in brackets where applicable). In addition, this listing has two columns to indicate whether the inert ingredient can be used in FIFRA Section 25(b) products applied to food use and/or nonfood use sites.

		Food	Nonfood
CAS Reg. No.	Chemical Name	Use	Use
9002-18-0	Agar		✓
N/A	Almond hulls		✓
N/A	Almond shells		✓
1327-36-2	Aluminatesilicate		✓
1327-43-1	Aluminum magnesium silicate		✓
	[Silicic acid, aluminum magnesium salt]		
12736-96-8	Aluminum potassium sodium silicate		✓
	[Silicic acid, aluminum potassium sodium salt]		
1335-30-4	Aluminum silicate		✓
1344-00-9	Aluminum sodium silicate	✓	✓
	[Silicic acid, aluminum sodium salt]		
12003-51-9	Aluminum sodium silicate (1:1:1)		✓
	[Silicic acid (H4SiO4), aluminum sodium salt (1:1:1)]		

CAS Reg. No.	Chemical Name	Food Use	Nonfood Use
1863-63-4	Ammonium benzoate		✓
	[Benzoic acid, ammonium salt]		
1002-89-7	Ammonium stearate		✓
	[Octadecanoic acid, ammonium salt]		
N/A	Apple pomace	✓	✓
137-66-6	Ascorbyl palmitate		✓
12174-11-7	Attapulgite-type clay	✓	✓
8012-89-3	Beeswax	✓	✓
1302-78-9	Bentonite	✓	✓
85049-30-5	Bentonite, sodian		✓
68409-75-6	Bone meal		✓
N/A	Bran		✓
N/A	Bread crumbs		✓
123-95-5	Butyl stearate		✓
123-95-5	Butyl stearate	✓	✓
	[Octadecanoic acid, butyl ester]		
N/A	Calcareous shale	✓	✓
13397-26-7	Calcite (Ca(Co3))	✓	✓
62-54-4	Calcium acetate		✓
5743-26-0	Calcium acetate monohydrate		✓
	[Acetic acid, calcium salt, monohydrate]		
2090-05-3	Calcium benzoate		✓
	[Benzoic acid, calcium salt]		
2090-05-3	Calcium benzoate		✓
471-34-1	Calcium carbonate	✓	✓
6107-56-8	Calcium octanoate		✓
12168-85-3	Calcium oxide silicate (Ca3O(SiO4))		✓
1344-95-2	Calcium silicate	✓	✓
	[Silicic acid, calcium salt]		
1592-23-0	Calcium stearate		✓
	[Octadecanoic acid, calcium salt]		
7778-18-9	Calcium sulfate		✓
10101-41-4	Calcium sulfate dehydrate		✓
10034-76-1	Calcium sulfate hemihydrate		✓
N/A	Canary seed		✓
7440-44-0	Carbon		✓
124-38-9	Carbon dioxide		✓
N/A	Cardboard		✓
8015-86-9	Carnauba wax		✓
9000-07-1	Carrageenan	✓	✓
9000-71-9	Caseins		✓
N/A	Cat food		✓
9000-11-7	Cellulose, carboxymethyl ether		√

CAS Reg. No.	Chemical Name	Food Use	Nonfood Use
N/A	Cheese	USC	√ VSC
479-61-8	Chlorophyll a	1	✓
519-62-0	Chlorophyll b	· /	✓
N/A	Citrus meal	√	✓
9000-69-5		 	▼
68514-76-1	Citrus pectin	√	▼
	Citrus pulp	 •	∀
N/A 8002-31-1	Clam shells	✓	V
	Cocoa	V	V
N/A	Cocoa shell flour	/	∀
N/A	Cocoa shells		
8001-69-2	Cod-liver oil	✓	✓
N/A	Cookies		✓
61789-98-8	Cork		✓
N/A	Corn cobs	✓	✓
N/A	Cotton		✓
68424-10-2	Cottonseed meal		✓
N/A	Cracked wheat		✓
26402-22-2	Decanoic acid, monoester with 1,2,3-propanetriol	✓	✓
49553-76-6	Diglyceryl monooleate		✓
	[9-Octadecenoic acid, ester with 1,2,3-propanetriol]		
12694-22-3	Diglyceryl monostearate		✓
	[9-Octadecanoic acid, monoester with oxybis(propanediol)]		
27638-00-2	Dilaurin	✓	✓
	[Dodecanoic acid, diester with 1,2,3-propanetriol]		
26657-95-4	Dipalmitin	✓	✓
	[Hexadecanoic acid, diester with 1,2,3-propanetriol]		
7727-73-3	Disodium sulfate decahydrate		✓
27215-38-9	Dodecanoic acid, monoester with 1,2,3-propanetriol	✓	✓
16389-88-1	Dolomite	✓	✓
N/A	Douglas fir bark	√	✓
N/A	Egg shells		✓
N/A	Eggs		✓
68476-25-5	Feldspar		✓
N/A	Fish meal		√
8016-13-5	Fish oil (not conforming to 40 CFR 180.950)		√
8031-18-3	Fuller's earth		✓
9000-70-8	Gelatins	/	√
68476-37-9	Glue (as depolymd. animal collagen)		/
56-81-5	Glycerin	√	✓
111-03-5	<u> </u>		∀
111-03-3	Glycerol monooleate		•
36354-80-0	[9-Octadecenoic acid (Z)-, 2,3-dihydroxypropyl ester] Glyceryl dicaprylate	✓	✓
JUJJ4-8U-U	[Octanoic acid, diester with 1,2,3-propanetriol]	•	"

CAS Reg. No.	Chemical Name	Food Use	Nonfood Use
53563-63-6	Glyceryl dimyristate	✓	✓
	[Tetradecanoic acid, diester with 1,2,3-propanetriol]		
25637-84-7	Glyceryl dioleate		✓
	[9-Octadecenoic acid (9Z)-, diester with 1,2,3-propanetriol]		
1323-83-7	Glyceryl distearate	✓	✓
27214-38-6	Glyceryl monomyristate	✓	✓
	[Tetradecanoic acid, monoester with 1,2,3-propanetriol]		
26402-26-6	Glyceryl monooctanoate	✓	✓
	[Octanoic acid, monoester with 1,2,3-propanetriol]		
25496-72-4	Glyceryl monooleate		✓
	[9-Octadecenoic acid (9Z)-, monoester with 1,2,3-		
	propanetriol]		
31566-31-1	Glyceryl monostearate	✓	✓
	[Octadecanoic acid, monoester with 1,2,3-propanetriol]		
11099-07-3	Glyceryl stearate	✓	✓
	[Octadecanoic acid, ester with 1,2,3-propanetriol]		
N/A	Granite	✓	✓
N/A	Grape pumice	✓	✓
7782-42-5	Graphite		✓
9000-01-5	Gum arabic	✓	✓
9000-65-1	Gum tragacanth	✓	✓
13397-24-5	Gypsum	✓	✓
1317-60-8	Hematite (Fe2O3)		✓
68334-00-9	Hydrogenated cottonseed oil		✓
84681-71-0	Hydrogenated rapeseed oil		✓
8016-70-4	Hydrogenated soybean oil	✓	✓
12068-86-9	Iron magnesium oxide (Fe2MgO4)		✓
1309-37-1	Iron oxide (Fe2O3)	✓	✓
12259-21-1	Iron oxide (Fe2O3), hydrate		✓
1317-61-9	Iron oxide (Fe3O4)		✓
1345-25-1	Iron oxide (FeO)		✓
110-27-0	Isopropyl myristate	√	✓
1332-58-7	Kaolin	✓	✓
61790-53-2	Kieselguhr (less than 1% crystalline silica) (Diatomaceous	✓	✓
01770 00 2	earth)		
63-42-3	Lactose	✓	✓
64044-51-5	Lactose monohydrate		✓
N/A	Latex rubber		✓
143-07-7	Lauric acid	✓	✓
12001-27-3	Lime (chemical) dolomitic		✓
1317-65-3	Limestone		√
8001-26-1	Linseed oil		✓
546-93-0	Magnesium carbonate	1	✓

CAS Reg. No.	Chemical Name	Food Use	Nonfood Use
	[Carbonic acid, magnesium salt (1:1)]		
553-70-8	Magnesium benzoate		✓
1309-48-4	Magnesium oxide	✓	✓
12207-97-5	Magnesium oxide silicate (Mg3O(Si2O5)2), monohydrate	✓	✓
1343-88-0	Magnesium silicate	✓	✓
1343-90-4	Magnesium silicate hydrate	✓	✓
14987-04-3	Magnesium silicon oxide (Mg2Si3O8)		✓
557-04-0	Magnesium stearate	✓	✓
	[Octadecanoic acid, magnesium salt]		
7487-88-9	Magnesium sulfate	✓	✓
10034-99-8	Magnesium sulfate heptahydrate	✓	✓
6915-15-7	Malic acid		✓
8002-48-0	Malt extract		✓
N/A	Malt flavor		✓
12003-38-2	Mica	✓	✓
12001-26-2	Mica-group minerals		✓
8049-98-7	Milk		✓
N/A	Millet seed		✓
8012-95-1	Mineral oil (U.S.P.)	✓	1
142-18-7	1-Monolaurin	✓	1
	[Dodecanoic acid, 2,3-dihydroxypropyl ester]		
589-68-4	1-Monomyristin	✓	✓
	[Tetradecanoic acid, 2,3-dihydroxypropyl ester]		
53998-07-1	Monomyristin		✓
	[Decanoic acid, diester with 1,2,3-propanetriol]		
26657-96-5	Monopalmitin	✓	✓
	[Hexadecanoic acid, monoester with 1,2,3-propanetriol]		
1318-93-0	Montmorillonite	✓	✓
544-63-8	Myristic acid	✓	✓
37244-96-5	Nepheline syenite		✓
7727-37-9	Nitrogen		✓
N/A	Nutria meat		✓
N/A	Nylon		✓
764-71-6	Octanoic acid, potassium salt		✓
1984-06-1	Octanoic acid, sodium salt		✓
8007-69-0	Oils, almond		✓
68917-73-7	Oils, wheat		✓
112-80-1	Oleic acid	✓	✓
N/A	Oyster shells		✓
8002-75-3	Palm oil	✓	✓
68514-74-9	Palm oil, hydrogenated		✓
57-10-3	Palmitic acid	✓	✓
	[Hexadecanoic acid]		

CAS Reg. No.	Chemical Name	Food Use	Nonfood Use
8002-74-2	Paraffin wax		✓
N/A	Peanut butter		✓
N/A	Peanut shells		✓
N/A	Peanuts		✓
N/A	Peat moss		✓
9000-69-5	Pectin		✓
130885-09-5	Perlite		✓
93763-70-3	Perlite, expanded		✓
26499-65-0	Plaster of paris		✓
9002-88-4	Polyethylene	✓	✓
9007-48-1	Polyglyceryl oleate	✓	✓
9009-32-9	Polyglyceryl stearate	✓	✓
1327-44-2	Potassium aluminum silicate, anhydrous	✓	✓
582-25-2	Potassium benzoate		✓
	[Benzoic acid, potassium salt]		
298-14-6	Potassium bicarbonate	✓	✓
	[Carbonic acid, monopotassium salt]		
68514-28-3	Potassium humates	✓	✓
	[Humic acids, potassium salts]		
13429-27-1	Potassium myristate		✓
	[Tetradecanoic acid, potassium salt]		
143-18-0	Potassium oleate	✓	✓
	[9-Octadecenoic acid (9Z)-, potassium salt]		
7492-30-0	Potassium ricinoleate		✓
	[9-Octadecenoic acid, 12-hydroxy-, monopotassium salt, (9Z,		
	12R)-]		
593-29-3	Potassium stearate	✓	✓
	[Octadecanoic acid, potassium salt]		
7778-80-5	Potassium sulfate	✓	√
7646-93-7	Potassium sulfate		✓
1222 00 0	[Sulfuric acid, monopotassium salt]		
1332-09-8	Pumice		√
N/A	Red cedar chips		√
N/A	Red dog flour		√
9006-04-6	Rubber		√
N/A	Sawdust		√
N/A	Shale		√
7631-86-9	Silica (crystalline free)	√	√
13776-74-4	Silicic acid (H2SiO3), magnesium salt (1:1)	✓	✓
308076-02-0	Soapstone	ļ	✓
127-09-3	Sodium acetate		√
532-32-1	Sodium benzoate	✓	✓
	[Benzoic acid, sodium salt]		

Chemical Name	Food Use	Nonfood Use
Sodium bicarbonate	✓	✓
Sodium humates	✓	✓
Sodium oleate		✓
Sodium ricinoleate		✓
[9-Octadecenoic acid, 12-hydroxy-, monosodium salt,		
(9Z,12R)-]		
Sodium stearate	✓	✓
[Octadecanoic acid, sodium salt]		
Sodium sulfate	✓	✓
Sorbic acid, potassium salt		✓
Sorbitol	✓	✓
Soy protein		✓
• •		✓
•		✓
• • • • • • • • • • • • • • • • • • •		✓
Stearic acid	✓	✓
Sulfur		✓
Tetragylceryl monooleate		✓
Urea	✓	✓
Vanillin	✓	✓
[Benzaldehyde, 4-hydroxy-3-methoxy-]		
Vermiculite	✓	✓
Vinegar (maximum 8% acetic acid in solution)	✓	✓
Vitamin C		✓
Vitamin E	✓	✓
		✓
		✓
		✓
		✓
		✓
		✓
	√	✓
		√
· ·		√
		√
		√
	1	√
	 	▼
		· /
Zinc iron oxide Zinc oxide (ZnO)	✓	V
	Sodium bicarbonate Sodium humates [Humic acids, sodium salt] Sodium oleate Sodium ricinoleate [9-Octadecenoic acid, 12-hydroxy-, monosodium salt, (9Z,12R)-] Sodium stearate [Octadecanoic acid, sodium salt] Sodium sulfate Sorbic acid, potassium salt Sorbitol Soy protein Soybean hulls Soybean meal Soybean, flour Stearic acid [Octadecanoic acid] Sulfur Tetragylceryl monooleate [9-Octadecenoic acid (9Z)-, monoester with tetraglycerol] Urea Vanillin [Benzaldehyde, 4-hydroxy-3-methoxy-] Vermiculite Vinegar (maximum 8% acetic acid in solution) Vitamin C Vitamin E Walnut flour Walnut shells Wheat Wheat flour Wheat germ oil Whey White mineral oil (petroleum) Wintergreen oil Wollastonite (Ca(SiO3)) Wool Yeast Zeolites (excluding erionite (CAS Reg. No. 66733-21-9)) Zeolites, NaA Zinc iron oxide	Chemical Name Sodium bicarbonate Sodium numates [Humic acids, sodium salt] Sodium ricinoleate [9-Octadecenoic acid, 12-hydroxy-, monosodium salt, (9Z,12R)-] Sodium stearate [Octadecanoic acid, sodium salt] Sodium stearate [Octadecanoic acid, sodium salt] Sodium sulfate Sorbic acid, potassium salt Sorbitol Soy protein Soybean hulls Soybean meal Soybean, flour Stearic acid [Octadecanoic acid] Sulfur Tetragylceryl monooleate [9-Octadecenoic acid (9Z)-, monoester with tetraglycerol] Urea Vanillin [Benzaldehyde, 4-hydroxy-3-methoxy-] Vermiculite Vinegar (maximum 8% acetic acid in solution) Vitamin C Vitamin E Walnut flour Walnut shells Wheat Wheat germ oil Whey White mineral oil (petroleum) Wintergreen oil Wool Yeast Zeolites (excluding erionite (CAS Reg. No. 66733-21-9)) Zeolites, NaA Zinc iron oxide

CAS Reg. No.	Chemical Name	Food Use	Nonfood Use
557-05-1	Zinc stearate [Octadecanoic acid, zinc salt]	✓	✓

Revised 03/03/09