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STATE OF MAINE  
DEPARTMENT OF AGRICULTURE, CONSERVATION AND FORESTRY  
BOARD OF PESTICIDES CONTROL  
28 STATE HOUSE STATION  
AUGUSTA, MAINE 04333-0028

WALTER E. WHITCOMB  
COMMISSIONER

HENRY JENNINGS  
DIRECTOR

To: Board of Pesticides Control Members  
From: Mary Tomlinson, Pesticides Registrar/Water Quality Specialist  
RE: FIFRA Section 18 request for use of Apivar to control Varroa mites in honey bee colonies  
Date: March 1, 2013

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This FIFRA Section 18 request for the use of Apivar (amitraz) to control Varroa mites in honey bee colonies is submitted at the request of Tony Jadczyk, State Apiarist. Varroa mites are a major pest of honey bees, causing significant colony losses in Maine. Enclosed is the above referenced Section 18 Specific Emergency Exemption request and supporting documents for your consideration.

Varroa mites have developed resistance to two currently registered pesticides and the other registered pesticides cause bee mortality, provide inconsistent mite control, and/or have use limitations making them impractical for large commercial beekeeping operations. Apivar provides miticidal effects via a different mode of action, suggesting it will be a valuable option in resistance management and organic honey production.

Lebelle Hicks, PhD DABT, pesticide toxicologist for the Board, reviewed the background information on exposure potential and toxicity data for the proposed use of amitraz in beehives under this section 18. This use and related residues in the honey will not increase the risks to the general population or the most highly exposure subpopulation, children one to two years of age. In addition, because this product is intended to be applied only to the inside of the beehive; therefore, environmental releases should not be an issue. Lebelle will be at the meeting to address questions.

Please reviewing the following documents and let me know if you have any questions.

1. Maine Section 18 request
2. Letter of support from Tony Jadczyk, Maine State Apiarist
3. Letter of support from Toyokazu Matsumoto, Arysta LifeScience America, Inc.
4. Apivar container label
5. Draft Maine Section 18 label with use directions
6. Apivar MSDS
7. List of Maine's threatened and endangered species

**2013 FIFRA SECTION 18  
EMERGENCY SPECIFIC EXEMPTION REQUEST  
FOR USE OF APIVAR TO CONTROL VARROA MITE  
IN HONEY BEE COLONIES IN MAINE**

Submitted by  
Maine Board of Pesticides Control  
Maine Department of Agriculture, Conservation and Forestry

March 1, 2013

General information requirements of 40 CFR 166.20(a, b) in an application  
for a specific exemption.

**SECTION 166.20(a)(1): IDENTITY OF CONTACT PERSONS**

**(i) Contact person:**

This application to the Administrator of the Environmental Protection Agency (EPA) is for a specific exemption to authorize the use of Apivar (amitraz) to control Varroa mites in honey bee colonies. This application is submitted by the Maine Board of Pesticides Control. Any questions related to this request should be addressed to:

Mary Tomlinson, Pesticides Registrar/Water Quality Specialist  
Maine Board of Pesticides Control  
Maine Department of Agriculture, Conservation and Forestry  
State House Station 28  
Augusta, ME 04333-0028  
[mary.e.tomlinson@maine.gov](mailto:mary.e.tomlinson@maine.gov)  
Phone: (207) 287-7544  
Fax: (207) 287-7548

**(ii) Qualified experts:**

The following qualified expert is also available to answer questions:

Anthony Jadcak, Maine State Apiarist  
Maine Department of Agriculture, Conservation and Forest  
State House Station 28  
Augusta, ME 04333-0028  
207-287-7562  
[anthony.m.jadcak@maine.gov](mailto:anthony.m.jadcak@maine.gov)

**(a) Technical and scientific aspects:**

Dr. Jeff Pettis, Research Leader  
USDA-ARS Bee Research Laboratory Bldg.  
476 BARC-E Beltsville, MD 20705  
Telephone: 301-504-7299  
Fax: 301-504-8736  
Email: [jeff.pettis@ars.usda.gov](mailto:jeff.pettis@ars.usda.gov)

Toyokazu Matsumoto, President  
Arysta Life Sciences America, Inc.  
1450 Broadway, 7<sup>th</sup> Floor  
New York, NY 10018  
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Fax: 212-930-5119  
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**b) Economic aspects:**

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E-mail: [jeff.pettis@ars.usda.gov](mailto:jeff.pettis@ars.usda.gov)

**SECTION 166.20(a)(2): DESCRIPTION OF PESTICIDE**

**(ii) Unregistered pesticide product:**

Common Chemical Name: **(Active Ingredient):** Amitraz: N'-(2,4-dimethylphenyl)-N-[[[(2,4-dimethylphenyl)imino]methyl]-N-methylmethanimidamide

**Trade Name:** Apivar

**Formulation:** Impregnated sustained-release plastic strip impregnated

**Amount of active ingredient:** 3.33% amitraz

**Manufactured by:** WyjoLab, SA  
ZA les Servenilles  
36310 Chaillac  
France

**Manufactured for:** Veto-pharma S.A.  
14 avenue du Quebec  
91140 Villebon-sur-Yvette  
France

**U.S. Agent:** Arysta LifeScience America, Inc.  
1450 Broadway, 7th Floor  
New York, NY 10018

(A) The Confidential Statement of Formula was previously submitted to the EPA by the registrant.

(B) The proposed Section 18 label and container label are included in the request packet.

### **SECTION 166.20(a)(3): DESCRIPTION OF PROPOSED USE**

**(i) Sites to be treated (including locations within the state):**

Use of Apivar is requested for honey bee colonies located in all Maine counties.

**(ii) Method of Application:**

To control varroa mite, remove honey supers before application of Apivar. Use two Apivar strips per brood chamber. Separate the double strip and hang each strip between two comb frames inside the brood area or bee cluster, with a minimum distance of two frames between strips. Suspend Apivar strips in the brood chamber in such a way that the bees can walk on both sides of the strips. Leave strips inside the hive for 42 days minimum, and then remove. In case of movement of bees inside the beehive away from the strips, reposition the strips into the bee cluster, and leave strips in place for 14 more days before removal. Strips must be removed after a maximum of 56 days. **DO NOT** re-use the strips.

Hang Apivar strips in the hives in the spring or the fall if Varroa mite infestations have reached treatment threshold. All Apivar strips should be removed two weeks before the honey flow starts.

**DO NOT USE APIVAR STRIPS WHEN HONEY SUPERS ARE PRESENT.**

Remove honey supers before application of Apivar strips and do not replace supers until 14 days after the strips are removed. Treat all infested colonies within the yard. The treatment is most effective when brood rearing is lowest.

**Resistance management:** This pest scenario is highly susceptible to resistance. Amitraz belongs to Insecticide Resistance Action Committee (IRAC) Group 19. Some individuals in

the Varroa mite population may be naturally resistant to Apivar. Over time, resistant Varroa mites will reproduce and dominate the mite population if Apivar is used repeatedly in the same location. To delay resistance, rotate this product with other Varroa mite control products in different chemical classes so that the potential for Varroa mite populations to develop resistance is minimized. Pesticide use should be based on an integrated pest management (IPM) program that includes, monitoring, record keeping, and considers cultural, biological and other chemical control practices. Using IPM with strict adherence to label directions (specifically the removal of amitraz strips after 56 days) on approved treatments reduces the risks of encouraging the development of resistant Varroa mite populations. Correctly identify the pest and ensure that the treatment thresholds are met prior to use. Monitor treated pest populations for resistance development and incorporate resistance management practices into a control program. Report performance issues due to the development of amitraz resistance in target pest.

**(iii) Rate of application (weight of product per strip):**

Strips will be applied at the rate of two strips per brood chamber. Each strip contains approximately 0.5 g of amitraz (a.i.).

**(iv) Maximum number of applications:**

A maximum of two applications per year (spring and/or fall) will be made.

**(v) Total number of honey bee colonies to be treated:**

The total number of honey bee colonies in Maine that could be treated with Apivar is estimated to be approximately 80,200 beehives (10,180 resident beehives and 70,000 commercial migratory beehives) registered in 2012 (Maine Department of Agriculture, 2012).

**(vi) Total amount of pesticide proposed (active ingredient and product):**

Assuming that 100% of the 80,200 honey bee colonies in Maine will be treated with four strips (two strips x two brood chambers) up to two times per year (spring and fall); a maximum of 641,600 strips may be used. If 100% of the honey bee colonies in Maine are treated, then the total amount of amitraz applied in Maine will be 320,800 grams (641,600 strips x 0.5 grams of amitraz per strip) or 707 lbs.

**(vii) Restrictions and requirements concerning the proposed use which may not appear on the labeling:**

There are no restrictions or requirements for this proposed Section 18 that do not appear on the Section 18 label for Apivar. The precautionary language, personal protective equipment, and other safety language on the container label are appropriate for the proposed Section 18.

**(viii) Duration of proposed use:**

The proposed use for Apivar will be during the spring and fall of 2013.

**(ix) Earliest possible harvest dates:**

Honey is typically harvested the end of July and mid-September depending on the amount of honey produced and environmental conditions that influence nectar secretion.

## SECTION 166.20(a)(4): ALTERNATIVE METHODS OF CONTROL

There are five pesticides currently approved by the EPA for control of Varroa mites and registered in Maine. In addition, EPA granted FIFRA Section 18 Emergency Specific Exemption for the use of HopGuard (beta acids) on August 3, 2102. None of these pesticides are providing acceptable control when used in commercial, sideline, and hobby beekeeping operations. Varroa mites have developed resistance to two of these pesticides, rendering them useless in most areas in the continental USA. The other pesticides are reported to cause bee mortality, provide inconsistent mite control and/or have use limitations that make them impractical for large commercial beekeeping operations (Sammataro et al., 2010).

Apistan (fluvalinate) is one of two pesticides formulated in a contact strip that has been available to beekeepers since the late 1980s. This pesticide worked well to control Varroa mite until repeated usage for many years allowed the Varroa mite to develop resistance to the chemical. With few exceptions, Apistan is no longer effective against the Varroa mite in Maine.

Checkmite (coumaphos) is the other pesticide formulated in a contact strip that has been used by beekeepers since the late 1990s. This product also worked well at controlling Varroa mite until repeated usage contributed to the development of resistance among the Varroa mite population to the chemical. With few exceptions, it is no longer effective against the Varroa mite in Maine (similar to Apistan).

ApiGuard (thymol) is a contact/vapor-action pesticide that is formulated as a gel. It is effective in controlling Varroa mites under certain optimal conditions. The product is useful only within a certain temperature range when bees are not producing honey and, if the temperature suddenly becomes too high, bee mortality occurs if the treatment is not quickly removed (Floris et al., 2004). Labor is an issue with this pesticide since it requires two successive applications.

Api Life Var (thymol/eucalyptus oil/menthol) is another contact/vapor-action/contact pesticide that is formulated as a tablet. It is dependent on optimum temperatures and requires three successive applications when bees are not producing honey. This pesticide is too labor intensive for the large-scale beekeepers.

Mite-Away Quick Strips (formic acid) is a vapor-action pesticide formulated in a pre-soaked pad. This product is only useful within a certain temperature range.

HopGuard (beta acids) authorized under Section 18 Emergency Exemption is a contact action pesticide formulated on a presoaked cardboard strip. The current formulation requires multiple applications (three) when hives are rearing brood and is too labor intensive for large-scale beekeepers.

### **(ii) Explanation why alternative practices would not provide adequate control or be economically feasible:**

Apistan (fluvalinate) and Checkmite (coumaphos) are routinely detected in the wax combs in honey bee colonies, creating an additional negative impact on colony health.

ApiGuard (thymol) is too labor intensive for the large-scale commercial beekeeping operations due to its temperature dependency, multiple applications, and bee mortality risk (Floris et al., 2004).

Api Life Var (thymol/eucalyptus oil/menthol) is labor intensive since three applications are necessary for Varroa control. In addition, bee mortality has been reported (similar to ApiGuard) under certain environmental conditions.

Mite-Away Quick Strips (formic acid) is also hazardous to the applicator unless it is handled very carefully. It is associated with queen loss, adult bee/brood mortality, and absconding when used during hot temperatures. The product's efficacy is inconsistent and influenced by the amount of brood present and size of the hive being treated.

Sucrose octanoate esters (Sucroicide) is a contact pesticide that is formulated as a liquid, but is not registered in Maine. It may be useful for hobby beekeepers with a few colonies; however, it is not useful for large commercial beekeeping operations because of the need to remove each individual frame and spray with product, thus making the procedure too labor intensive. This product can be very harmful to bees if not applied at the correct rate (Sammataro et al., 2008).

HopGuard (beta acids), authorized under Section 18 Emergency Exemption, performs well when hives have minimal-no brood. This pesticide provides Varroa control for approximately three days (while the strips remain wet). The current formulation necessitates multiple applications when hives are actively rearing brood which increases labor and associated costs for large scale beekeeping operations.

#### **SECTION 166.20(a)(5): EFFICACY OF PROPOSED USE**

Data from the USDA-ARS laboratory in Beltsville, MD, has demonstrated the efficacy of Apivar against Varroa mite. Apivar was first authorized in France in 1995 and there have been no complaints regarding the use of Apivar and sale of more than 10 million strips in France. In addition, there have been no complaints concerning Apivar with more than five million strips sold over a ten year period in Spain, one million strips sold in New Zealand over a six year period and more recently one million strips sold in Canada since 2008. Apivar has also been sold in the European Union, Japan, and Middle East with no complaints.

Pesticide application via strips as a control for Varroa is compatible with commercial beekeeping because the strip delivery is a practice known to beekeepers and involves minimal labor.

#### **SECTION 166.20(a)(6): EXPECTED RESIDUE LEVELS IN FOOD**

Amitraz (CAS# 33089-61-1) (TOXNET, 2013) is an acaricide currently registered by EPA for use on cattle and hogs as a dermal ectoparasite treatment. There are tolerances for cattle: fat, meat and meat byproducts, and milk. The hog tolerances include fat, kidney, liver, meat, and meat byproducts. Amitraz is used on cotton in foreign countries and there is an import tolerance for cotton (EPA, 2010). The existing tolerances include the parent compound, metabolites, and degradates (40 CFR 180.287, 2013) and range from 0.01 to 1 ppm.



Historically, there have been beehive uses for a 10% amitraz strip (Hoechst-Roussel Agri-Vet Company, 1992) at three strips per brood chamber during non-honey producing times. This is a much higher application rate than 3.33% amitraz strips with two per brood chamber. The previous tolerances were 1 ppm in honey and 6 ppm in beeswax (EPA, 2004). The honey beehive use and the honey beeswax tolerances were revoked in 2007 (EPA, 2007; EPA, 2010). It should be noted that while amitraz is not commonly found in acidic media including honey, its degradates are (Wallner, 1999; Floris et al., 2001; Korta et al., 2001; EPA, 2004; Martel et al., 2007; EPA, 2011; EPA, 2012). EPA considered and denied a petition to exempt amitraz from a tolerance in honey (EPA, 2012).

EPA is reviewing the data supporting re-establishment of the tolerance of 1.0 ppm in honey in support of the section 3 registration of Avipar strips (EPA, 2010; South Dakota, 2013). New tolerance for beeswax is not currently under discussion (EPA, 2011).

## **SECTION 166.20(a)(7): RISK ASSESSMENT**

### **Human Health**

Risks from dietary exposure to amitraz have been evaluated by EPA in 2004 and 2011. Other than the livestock-cotton uses mentioned above, the other uses of amitraz include two existing technical products, EPA# 65331-6 (Merial Limited, 2010) and EPA# 2382-190 (Virbac Animal Health, 2012), that limit the uses of the formulated products to domestic animals. There is one animal drug product for use on dogs regulated by FDA containing amitraz, Mitoban Liquid Concentrate, a 19.9 % amitraz in an organic solvent product (FDA, 2013).

The current EPA risk assessment is based on reversible central nervous system (CNS) effects found in a study using human volunteers. Amitraz acts as an alpha adrenergic agonist causing symptoms of CNS depression. Because the rapid onset and resolution of the symptoms, EPA views amitraz exposures of all durations as a series of short term exposures. The no observable adverse effect level (NOAEL) for amitraz in humans is 0.125 mg/kg, which is much lower than the NOAELs in other species (EPA, 2011). When evaluating pesticide risks from dietary exposures, the reference dose (RfD) is the lowest NOAEL/uncertainty factors (UF) and the population adjusted dose (PAD) is the RfD/ Food Quality Protection Act Safety Factor (FQPA SF).

The UFs for amitraz, used by EPA in their 2011 dietary evaluation, were a factor of 10X for human variability and 10X combined Database UF-FQPA SF of 10X due to the lack of adequate reproductive and developmental studies. This results in a total of the UFs of 100 and the acute reference dose (aRfD) is 0.00125 mg/kg/day. The acute population adjusted dose (aPAD) is equal to the RfD/FQPA SF. The FQPA SF for amitraz is 1X, therefore the aPAD is equal to the aRfD, 0.00125 mg/kg/day (EPA, 2011). Earlier EPA dietary risk assessments were based on the NOAEL of 0.25 from the chronic oral study in dogs with UF of 10X for extrapolating from animal to humans, 10X for variability in humans, and 10X database uncertainty resulting in a total of 1000. The earlier aRfD was  $0.25/1000 = 0.00025$  mg/kg/day because the FQPA SF was 1X, the aPAD was 0.00025 mg/kg/day (EPA, 2004).

In both the 2004 and 2011 EPA dietary risk assessments for amitraz, the most highly exposed subpopulation is children ages 1 to 2 years of age. This was because of the use of amitraz on cattle and residues in milk. At the 99.9 percentile, in 2004, for children ages 1 to 2 years, the estimated dietary intake of amitraz was 0.000349 mg/kg/day and, in 2011, the intake was estimated at 0.000344 mg/kg/day. The 2004 dietary exposure calculation included residues in cattle, including milk, and swine. Honey was not included in this analysis because the registrant had voluntarily canceled the use (EPA, 2004). The 2011 assessment was for cattle, including milk, swine, and honey (EPA, 2011).

Because of the differences in residue in the commodities and the calculation of the aPAD, the resulting percent of the aPAD were 140% in 2004 and 27.6% in 2011. Recently, EPA published a notice of intent to cancel the uses on cattle and swine in the technical product, EPA# 85904-1, made by Arysta (EPA, 2013). The other two registered technical products, EPA# 65331-6 (Merial Limited, 2010) and EPA# 2382-190 (VirBac Animal Health, 2012), do not have cattle or swine uses on their labels. This means that the total residues of amitraz in the diet will be decreasing over the next few years.

In the 2004 dietary risk assessment, EPA evaluated the cancer risks from dietary exposure to amitraz using the EPA standard risk assessment procedure for carcinogens. The lifetime dietary exposure was  $< 0.000001$  mg/kg/day and the resulting cancer risk was  $2.8 \times 10^{-8}$ . EPA's acceptable cancer risk is  $1 \times 10^{-6}$ . The risk from chronic exposure to amitraz in the diet is below the acceptable risk level.

### **Conclusion**

The proposed Section 18 use of amitraz in beehives and related residues in the honey will not increase the risks to the general population or the most highly exposure subpopulation, children 1 to 2 years of age.

### **Environmental Fate and Risks**

The proposed use of this product is intended to be applied only to the inside of the beehive (Arysta, 2013); therefore, environmental releases should not be an issue (Arysta, 2012b).

### **Threatened and Endangered Species**

The proposed use of this product is intended to be applied only to the inside of the beehive (Arysta, 2013); therefore, the use is expected to have no adverse effects on the threatened and endangered species or their habitats in Maine (Arysta, 2012b). A list of Maine's endangered and threatened species is included in the request packet..

<p style="text-align: center;"><b>SECTION 166.20(a)(8): COORDINATION WITH OTHER AFFECTED FEDERAL, STATE, AND LOCAL AGENCIES</b></p>
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Other state and federal agencies will be informed, if necessary, when the exemption is approved.

### **SECTION 166.20(a)(9): ACKNOWLEDGEMENT BY REGISTRANT**

Arysta Life Sciences America, Inc., has been notified of this agency's intent regarding this application. The letter of support from Toyokazu Matsumoto, President, is included in the request packet.

### **SECTION 166.25(b)(ii): PROGRESS TOWARDS REGISTRATION**

Please refer to the Section 18 request for South Dakota.

### **SECTION 166.20(a)(10): ENFORCEMENT PROGRAM**

The Maine Board of Pesticides Control (BPC) is the State Lead Agency for the regulation of pesticides. The BPC will monitor the application of the exempted pesticide as needed to determine that the provisions of the specific exemption are being followed.

### **SECTION 166.20(a)(11): REPEAT USES**

This is the first year Maine has applied for this specific exemption for this product.

### **SECTION 166.20(b)(1): NAME OF PEST**

Scientific and Common Name of the Pest: *Varroa destructor* (Varroa mite)

### **SECTION 166.20(b)(2): EVENTS OR CIRCUMSTANCES WHICH BROUGHT ABOUT THE EMERGENCY SITUATION**

The ectoparasitic mite *Varroa destructor* appeared in the U.S. in 1987 and is a highly destructive pest of honey bee *Apis mellifera* colonies. The mites live within the colony, and reproduce in the bee's brood cells. Mites feed on the developing larvae by sucking hemolymph and emerge from the cells to feed on the adult bees. This parasitic action vectors viral pathogens, deforms and/or kills the young, shortens the life of the adults, and adversely affects the colony through an overall reduction in population size, vigor, and health.

Varroa is having a catastrophic effect on honey bee populations and the commercial beekeeping industry. Colony losses across the USA this past year were approximately 21.9%, according to the annual survey conducted by the USDA. USDA-ARS researchers believe that 75% of those losses could be attributed to the direct effects of Varroa (Pettis, 2010 letter,

Appendix). The parasitic mite is considered the number one pest of honey bees worldwide and its control is necessary for successful beekeeping (Calderone, 2009); however control options are limited.

Colony inspection performed by the Maine Department of Agriculture, Conservation and Forestry (ACF) determined Varroa mite infestation and the viral complex associated with Varroa infestation as the primary reason for colony mortality. In recent years, the symptoms of viral pathogens that are both activated and vectored by Varroa have become more common at lower mite infestations. Therefore, the Varroa treatment threshold is now lower due to the prevalence of these viral pathogens. Northern beekeepers can no longer rely on a single Varroa treatment during fall and, at times, need to treat hives during the short honey production period.

Maine's commercial migratory beekeeping operations are highly mobile and pollinate a diversity of crops that include: CA almonds, FL citrus, NY/ME apples, NJ/ME blueberries, and MA/ME/WI cranberries. Hives are also used to pollinate small fruit, vegetable, and oil crops such as strawberry, squash, and canola in ME. The commercial pollinators must treat multiple times during the year that conflict at times with honey production. Treatment is necessary when the Varroa population warrants in order to prevent excessive colony mortality.

Two EPA-registered pesticides, Apistan® (fluvalinate) and Checkmite® (coumaphos), were initially used to successfully control the Varroa mite; however, the repeated application of these products contributed to the widespread development of mite resistance to these products. Furthermore, fluvalinate and coumaphos are routinely detected in samples of wax combs used in honey bee colonies. The presence of these compounds in the combs has an additional negative impact in colony health and especially in queen rearing. With these two products no longer effective against the mites, additional products became available; however, these additional products are reported to cause bee mortality, provide inconsistent mite control, and/or have use limitations that make them impractical for large commercial beekeeping operations.

### **SECTION 166.20(b)(3): DISCUSSION OF ANTICIPATED RISKS THAT WOULD BE REMEDIED BY THE PROPOSED USE**

This emergency exemption is not expected to remedy any risks to threatened or endangered species or to the environment.

### **SECTION 166.20(b)(4): DISCUSSION OF ECONOMIC LOSS**

Economic conditions in the beekeeping industry have become increasingly adverse since the Varroa mite was introduced into the U.S. in 1987. Control of Varroa in honey bee colonies has added significant cost to beekeeping. Commercial beekeepers are suffering large colony losses due to Varroa. In the meantime, Colony Collapse Disorder (CCD) appeared and added to the

economic woes of the beekeeper. The cause of CCD has not been determined, but the Varroa mite is certainly a part of the disorder. Annual colony losses in the U.S. have been greater than 30% per year in recent years (vanEngelsdorp et al., 2012). While these losses are not entirely due to Varroa, Dr. Jeff Pettis (USDA-ARS) estimates that Varroa mites could account for as much as 75% of these annual losses (Pettis, 2010 letter, Appendix). In Maine, the majority of colony losses occur during late fall and winter months. Maine beekeepers suffered colony losses greater than 45% during 2010-2011 (vanEngelsdorp et al., 2012).

**(ii) Anticipated yield in the absence of the emergency and expected losses due to the emergency:**

Data for 2012 is not yet available; therefore, the following is based on 2010-2011 data. The USDA National Agricultural Statistic Service reported 6,000 honey producing hives in Maine during 2010 that averaged 41 pounds (lbs)/colony totaling 246,000 lbs of honey. The yield expected for 2011 was approximately the same given that the yields increased each year from 2007 with 23 lbs per colony through 2009 with yields of 50 lbs per colony (Table 1).

**Table 1. Baseline yield of Maine honey production and value 2007-2011.**

Year	Honey Producing Colonies	Yield per Colony (lbs)	Production (lbs)	Ave. Price per Pound (dollars)	Value of Production (dollars)
2007	9000	26	234,000	1.32	309,000
2008	7000	42	294,000	1.57	462,000
2009	6000	50	300,000	1.95	585,000
2010	6000	41	246,000	2.11	519,000
2011	4000	30	120,000	1.91	229,000
5 Year Ave.	6,400	38	238,800	1.77	420,800

Source: USDA-NASS 2011

However, the USDA-NASS 2011 Bees and Honey Survey documented a lower colony count, lower honey production/hive, and overall yield compared to the 2010 survey. In 2011, the USDA-NASS report estimated 4,000 honey producing hives in Maine that produced a 30 lb/hive average totaling 120,000 lbs. The 2011 average production was substantially lower than 2010 due to excessive hive mortality from Varroa and associated viral complex during the previous fall and winter (2010-11). Overall, a 49.7% loss in honey production from the five-year baseline prior to the emergency was experienced by the industry (Table 2).

**Table 2. Tier 2 Analysis of Honey Production and Commercial Beekeeping Operations in Maine 2011.**

	Baseline	Emergency	Change	% Change
Pollination income (\$90/hive ave.)	\$6,248,520	\$5,222,160	\$1,026,360	
Honey production (lbs)	238,800	120,000	-118,800	-49.7
Honey income	\$420,800	\$229,000	-\$191,800	-45.6
<b>Gross revenue</b>	<b>\$6,908,120</b>	<b>\$5,571,160</b>	<b>-\$1,336,960</b>	<b>-19.4</b>
Replacement colony cost (\$150/colony)		\$570,195	-\$570,195	
Nucleus colony cost (\$65/colony)		\$247,085	-\$247,085	
Split existing parent colony cost (\$60/colony)		\$228,078	-\$228,078	
<b>Total additional costs</b>		<b>\$1,045,358</b>	<b>-\$1,045,358</b>	<b>15.1</b>
<b>Total losses (% change compared with gross revenue)</b>			<b>-\$2,382,318</b>	<b>34.5</b>

**(ii) Anticipated prices in absence of the emergency and changes in prices and/or production costs due to the emergency:**

According to USDA-NASS 2011, honey production was valued at \$519,000 in 2010 (Table 1). The projected valuation in 2011 was expected to have been approximately equal to 2010. However, the value of production in 2011 fell to \$229,000, a loss of 45.6% when compared to the five year average value of \$420,800 (Tables 1, 2).

The primary income for commercial beekeepers in Maine is derived from crop pollination. In 2012, approximately 69,428 colonies were used to pollinate the state's wild blueberry and apple crops. The state's processed wild blueberry crop was valued at \$69.1 million in 2012 and the apple crop at \$ 15.4 million in 2012. The value of pollination for Maine's commercial agricultural crops is estimated to be in excess of \$100 million when miscellaneous fruit, vegetable, and oil crops are included.

The primary income for commercial beekeepers in Maine is derived from crop pollination. In 2012, approximately 69,428 colonies were used to pollinate the state's wild blueberry and apple crops. The state's processed wild blueberry crop was valued at \$69.1 million in 2012 and the apple crop at \$ 15.4 million in 2012. The value of pollination for Maine's commercial agricultural crops is estimated to be in excess of \$100 million when miscellaneous fruit, vegetable, and oil crops are included.

Compensation for blueberry crop pollination is based upon colony quality with payment according to "grade" after a percentage of colonies are inspected and prorated for the beekeeping operation. Strong, healthy colonies are paid 20-25% greater than the "base rate" and substandard colonies are paid at a reduced rate (20%) or not at all. Pollination compensation ranges from \$75/colony (base) to greater than \$100/colony (with bonus) according to contract stipulations. In 2012, beekeepers were compensated \$90/hive on average.

Commercial beekeepers have three methods to replace lost colonies:

- (1) Buy full strength replacement colonies for a cost of approximately \$150 each, which is the most expensive, but quickest method.

- (2) Buy nucleus colonies for a cost of approximately \$65 apiece. A nucleus colony is three frames of bees and a queen that are placed into an empty brood chamber. Over time, a nucleus colony will become a full strength colony.
- (3) Split existing parent colonies for a cost of approximately \$60 each. This method involves buying a queen and taking half of the bees and brood frames from an existing parent colony. Over time, a split colony and parent colony will become a full strength colony.

The replacement cost for hives managed by sideline and hobby beekeepers in Maine is greater than commercial beekeeper costs. The price for a nucleus colony ranges from \$95 to \$135, package bees at \$96, and full strength colonies at \$160-\$200.

Colony losses due to Varroa greatly influence the beekeeper's pollination income according to the need for replacement colonies by one or all of the aforementioned methods. When many colonies are split or "nuced" in order to compensate for losses, income is lost by way of replacement cost and pollination income since the nuclei hives and split hives are of lower quality. For example, the national survey reported that colony mortality in 2011-12 was approximately 21.9%. If 75% of these losses are attributed to Varroa then approximately 11,404 of the 69,428 hives used to pollinate Maine blueberries needed replacement ( $69,428 \times 21.9\%$  loss = 15,205 mortality  $\times$  75% due to varroa = 11,404 hives).

Assuming the colonies are replaced via the three methods previously stated: hive purchase (\$150/colony), splitting (\$60/colony), and nuclei hives (\$65/colony); the cost of replacement is approximately \$1,045,358. This cost does not include the reduced pollination income for approximately two thirds of the colonies (nuclei and split colonies) that do not develop into premium (above grade) colonies.

The 2012 honey production data is not available at this time, however, gross revenue from honey production and commercial beekeeping in Maine in 2011 was \$5,571,160, a 19.4% loss equaling \$1,3368,960 from the five-year average (2007-2011) of \$6,908,120 (Table 2). When the additional costs of replacing colonies are considered, a 34.5% total loss equaling \$2,382,318 is realized.

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## APPENDIX 1



### United States Department of Agriculture

Research, Education, and Economics  
Agricultural Research Service

June 13, 2010

Mr. Lloyd Schantz  
Vice President  
J. I. Haas, Inc.

Dear Lloyd,

I write in support of Hopguard® as a varroa mite control product and your company's efforts to get it to beekeepers under a section 18 exception. The parasitic varroa mite is considered the number one pest of bees worldwide and its control is necessary for successful beekeeping. Our control options are limited. Further the mite has developed resistance to the two synthetic products used in the U.S., fluvalinate and coumaphos. Thus a real need exist for alternatives.

As you know the beekeeping industry has been suffering extensive losses over the past few years. Our four years of survey of U.S. beekeepers has indicated a greater than 30% loss of bee colonies over the fall and winter; a rate of loss that puts many beekeepers at risk of economic collapse. Colony Collapse Disorder (CCD) has been one of the leading causes of these recent losses but is by no means the only reason. Additionally, we suspect that varroa mites are a likely primary stress factor on bees that allows for pathogens like virus to take hold. I expect that Varroa mites could account for as much as 75% of the bee losses in any particular year. The collapse of colonies that we call CCD could be initiated by the stress caused by the feeding of Varroa. CCD remains unresolved but if we had better varroa control products it is certain that bee health would improve.

The beekeeping industry is in real and immediate need of varroa control alternatives. My experience to date with Hopguard® has been positive and I feel this product will offer a safe and effective alternative to the hard chemicals we have been relying upon but which the mites have developed resistance to. Please let me know if you need additional information or if I can be of further assistance.

Sincerely,

A handwritten signature in black ink that reads "Jeff Pettis".

Dr. Jeff Pettis  
Research Leader  
USDA-ARS Bee Research Laboratory  
Bldg. 476 BARC-E  
Beltsville, MD 20705 USA  
301-504-7299  
jeff.pettis@ars.usda.gov



Bee Research Laboratory  
Building 476, Beltsville, MD 20705  
An Equal Opportunity Employer



PAUL R. LEPAGE  
GOVERNOR

STATE OF MAINE  
DEPARTMENT OF AGRICULTURE, CONSERVATION AND FORESTRY  
DIVISION OF ANIMAL AND PLANT HEALTH  
28 STATE HOUSE STATION  
AUGUSTA, MAINE 04333-0028

WALTER E. WHITCOMB  
COMMISSIONER

ELLIS B. ADDITON  
DIRECTOR

February 7, 2013

John Jemison, Chairman  
Maine Board of Pesticides Control  
28 State House Station  
Augusta, ME 04333

Dear Dr. Jemison,

I support the FIFRA Section 18 Emergency Exemption request for Apivar (amitraz) manufactured by Veto-pharma to control Varroa in honey bee colonies. Varroa and the viral complex the mite vectors to immature and adult honey bees are the primary cause for honey bee mortality in Maine, the US and countries where the mite is established.

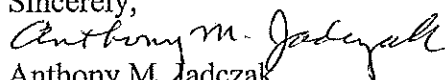
Apivar will provide beekeepers with an effective Varroa treatment alternative to the two other registered synthetic acaricides, Apistan (fluvalinate) and CheckMite (coumaphos) since it has a different mode of action. Varroa is resistant to both Apistan and CheckMite due to repeated usage over many years. Apivar is superior to the thymol based Varroa controls because it is formulated as a strip and provides control over a period of two brood cycles. It is effective in a wide range of temperatures and does not cause queen loss, brood mortality, absconding and/or robbing behavior.

The EPA granted a section 18 exemption for Apivar to South Dakota on October 19, 2012 and subsequently to: OR, ND, CO, MS, MN, CA, FL, MI, AR and KY. In addition, HI, TX, NB, WY, GA, LA, ID, OH, DE, VT, WA, WI, and NY are petitioning EPA for section 18 approvals.

Honey bees are vital for blueberry production in Maine and the demand for honey bees has increased seven fold over the last three decades ( 1981- 9,454 hives, 2012-69,428 hives). Honey bees are also used to pollinate Maine's apple, cranberry, small fruit and vegetable crops.

If you or any board members have questions regarding this request or the status of beekeeping, please contact me at 207-287-7562 desk, 207-441-5822 cell. I plan to attend the Board of Pesticides Control meeting in Augusta on March 1, 2013 and will answer any questions the board may have. Thank you for considering this matter.

Sincerely,

  
Anthony M. Jadczyk  
State Apiarist



Arysta LifeScience

January 21, 2013

Ms. Mary E. Tomlinson  
Pesticide Registrar/Water Quality Specialist  
Maine Board of Pesticides Control  
28 State House Station  
Augusta, ME 04333

Subject: Application for an Emergency Exemption  
Amitraz to Control Varroa Mites in Honeybee Hives

Dear : Ms. Mary E. Tomlinson:

Arysta LifeScience America Inc. (Arysta) is the manufacturer of Amitraz Technical, EPA Reg. No. 85904-1. Veto-pharma SA (Veto-pharma), our affiliated company in France, for whom we are the agent, has submitted a Section 3 registration application dated December 23, 2009 for Apivar, a plastic strip impregnated with Amitraz to be used in honeybee hives to control varroa mites. Amitraz had been used in the U.S. in impregnated strips (Miticure, EPA Reg. No. 54382-5) to control mites in honeybee hives in the past and tolerances were established for honey and beeswax. Veto-pharma's new strip, Apivar, has one-third the amount of amitraz that was in the previous registered product and, since both products call for the use of 2 strips per hive, Apivar will deliver much less amitraz to the hive.

Apivar is approved for use in beehives in Europe and other countries and is in active production. Arysta and Veto-pharma understand that Maine will be requesting an Emergency Exemption. Veto-pharma will make available sufficient Apivar strips should the Emergency Exemption be approved.

If you have any questions regarding our commitment, please contact me at 212-930-5101.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Toyokazu Matsumoto', written over a horizontal line.

Toyokazu Matsumoto  
President  
Arysta Lifescience America Inc.

c.c. Vito-pharma SA, France

0410



# Apivar™ strips

## DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Apivar™ is a sustained-release plastic strip designed for use in beehives to control the parasitic mite (*Varroa destructor*) on honey bees.

### For varroa treatment

To control varroa mite, remove honey supers before application of Apivar™. Use 2 Apivar™ strips per brood chamber. Separate the double strip and hang each strip between two comb frames inside the brood area or the bee cluster, with a minimum distance of 2 frames between strips. Suspend Apivar™ strips in the brood chamber in such a way that the bees can walk on both sides of the strips. Leave strips inside the hive for 42 days minimum, and then remove. In case of movement inside the beehive far from the strips, a repositioning of the strips should be done into the bee cluster, and the strips left in place for 14 more days before removal. Strips must be removed after a maximum of 56 days. **DO NOT re-use the strips.**

### Timing:

Hang Apivar™ strips in the hives one treatment in the spring or one treatment in the fall if varroa mite infestations have reached treatment threshold. All Apivar™ strips should be removed 2 weeks before the honey flow starts.

If mite infestation reaches treatment thresholds in autumn, remove surplus honey supers before using Apivar™.

### Withholding period for honey collection:

**DO NOT USE APIVAR™ STRIPS WHEN HONEY SUPERS ARE PRESENT.**  
Wait 14 days after removing strips before placing honey supers on hive.

### Resistance management:

This pest scenario is highly susceptible to resistance. Amitraz belongs to Insecticide Resistance Action Committee (IRAC) Group 19. Some individuals in the Varroa mite population may be naturally resistant to Apivar™. Over time, resistant Varroa mites will reproduce and dominate the mite population if Apivar is used repeatedly in the same location. To delay resistance, rotate this product with other Varroa mite control products in different chemical classes so that the potential for Varroa mite populations to develop resistance is minimized. Pesticide use should be based on an integrated pest management (IPM) program that includes monitoring, record keeping, and considers cultural, biological and other chemical control practices. Using IPM with strict adherence to label directions (specifically the removal of amitraz strips after 56 days) on approved treatments reduces the risks of encouraging the development of resistant Varroa mite populations. Correctly identify the pest and ensure that treatment thresholds are met prior to use. Monitor treated pest populations for resistance development and incorporate resistance management practices into a control program. Report performance issues due to the development of amitraz resistance in target pest.

### Storage and disposal:

Do not contaminate water, food or feed by storage or disposal.

### Pesticide storage:

Store in a cool, dry area, out of direct sunlight, and away from other pesticides that may contaminate the strips. To prevent contamination, store this product in the original container and away from food or feed.

### Pesticide disposal:

To avoid wastes, use all strips in this container by application according to label directions. Offer remaining product to an approved waste disposal facility or pesticide disposal program.

**Container disposal:** Unused strips should be stored in a cool, dark area. Any unused, unregistered product must either be returned to the manufacturer or distributor in unopened packaging or disposed of in accordance with the Resource Conservation Recovery Act following the expiration of this emergency exemption.

**Warranty and Disclaimer:** To the extent consistent with applicable law, this product is to be used only in accordance with the directions on the label. The user assumes the risk to persons or property that arises from any use of the product in a way that is inconsistent with the label.

**See Supplemental Label for State and File Symbol**

EPA Est. No. 87242-FRA-001

Manufactured for:

**Véto-pharma S.A.**

14 avenue du Québec

91140 Villebon-sur-Yvette - FRANCE

U.S. Agent:

**Arysta LifeScience America Inc.**

1450 Broadway - New York, NY 10018

Tel: 212-930-5101

For use only as authorized in the State in which the U.S. Environmental Protection Agency (EPA) has granted a FIFRA Section 18 emergency exemption. This Labeling must be in the possession of the user at the time of application.

**Emergency exemption use direction**  
**APIVAR™ STRIPS - SUPPLEMENTAL LABEL**  
**EPA File Symbol: XX-SS-YY**

**STATE: MAINE**

For the control of mites (varroatosis) on honey bees

**EXPIRATION DATE:**

EPA Est. No. 87242-FRA-001

ACTIVE INGREDIENT: Amitraz: N'-(2,4-dimethylphenyl)-N-[[[2,4-dimethylphenyl]imino]methyl]-N-methylmethanimidamide	3.33%
INERT INGREDIENTS	96.67%
TOTAL:	100.00%

### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Apivar™ is a sustained-release plastic strip designed for use in beehives to control the parasitic mite (*Varroa destructor*) on honey bees. For varroa treatment - To control varroa mites, remove honey supers before application of Apivar™. Use 2 Apivar™ strips per brood chamber. Separate the double strip and hang each strip between two comb frames inside the brood area or the bee cluster, with a minimum distance of 2 frames between strips. Suspend Apivar™ strips in the brood chamber in such a way that the bees can walk on both sides of the strips. Leave strips inside the hive for 42 days, and then remove. In case of movement of bees inside the beehive away from the strips, reposition the strips into the bee cluster, and leave strips in place for 14 more days before removal. Strips must be removed after a maximum of 56 days. DO NOT re-use the strips.

**Timing:**

A maximum of two treatments, one in the spring and/or one in the fall may be made per year if varroa mite infestations reach treatment threshold. All Apivar™ strips should be removed 2 weeks before the honey flow starts.

If mite infestation reaches treatment thresholds in autumn, remove surplus honey supers before using Apivar™.

**Withholding period for honey collection:**

DO NOT USE WHEN HONEY SUPERS ARE PRESENT. Wait 14 days after removing strips before placing honey supers on hive.

**Resistance-management:** This pest scenario is highly susceptible to resistance. Amitraz belongs to Insecticide Resistance Action Committee (IRAC) Group 19. Some individuals in the Varroa mite population may be naturally resistant to Apivar®. Over time, resistant Varroa mites will reproduce and dominate the mite population if Apivar is used repeatedly in the same location. To delay resistance, rotate this product with other Varroa mite control products in different chemical classes so that the potential for Varroa mite populations to develop resistance is minimized. Pesticide use should be based on an integrated pest management (IPM) program that includes monitoring, record keeping, and considers cultural, biological and other chemical control practices. Using IPM with strict adherence to label directions (specifically the removal of amitraz strips after 56 days) on approved treatments reduces the risks of encouraging the development of resistant Varroa mite populations. Correctly identify the pest and ensure that treatment thresholds are met prior to use. Monitor treated pest populations for resistance development and incorporate resistance management practices into a control program. Report performance issues due to the development of amitraz resistance in target pest.

**Warranty and Disclaimer:** To the extent consistent with applicable law, this product is to be used only in accordance with the directions on the label. The user assumes the risk to persons or property that arises from any use of the product in a way that is inconsistent with the label.

<b>STORAGE AND DISPOSAL</b>	
<b>Do not contaminate water, food or feed by storage or disposal.</b>	
<b>PESTICIDE STORAGE:</b>	Store in a cool, dry area, out of direct sunlight, and away from other pesticides that may contaminate the strips. To prevent contamination, store this product in the original container and away from food or feed.
<b>PESTICIDE DISPOSAL:</b>	To avoid wastes, use all strips in this container by application according to label directions. Offer remaining product to an approved waste disposal facility or pesticide disposal program.
<b>CONTAINER DISPOSAL:</b>	Unused strips should be stored in a cool, dark area. Any unused, unregistered product must either be returned to the manufacturer or distributor in unopened packaging or disposed of in accordance with the Resource Conservation Recovery Act following the expiration of this emergency exemption.

**KEEP OUT OF REACH OF CHILDREN**  
**WARNING**

<b>FIRST AID</b>	
<b>IF SWALLOWED:</b>	<ul style="list-style-type: none"> <li>• Call a poison control center or doctor immediately for treatment advice.</li> <li>• Have person sip a glass of water if able to swallow.</li> <li>• Do not induce vomiting unless told to by a poison control center or doctor.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul>
<b>IF ON SKIN OR CLOTHING:</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>IF IN EYES:</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>IF INHALED:</b>	<ul style="list-style-type: none"> <li>• Move person to fresh air.</li> <li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible.</li> <li>• Call a poison control center or doctor for further treatment advice.</li> </ul>
<p>Have the product container or label with you when calling a poison control center or doctor or going for treatment. For TRANSPORTATION EMERGENCIES, call 24 hours a day CHEMTREC 1-800-424-9300. For MEDICAL EMERGENCY, call 24 hours a day PROSAR 1-866-257-2596. For PRODUCT USE Information Call 1-212-930-5101.</p>	

**PRECAUTIONARY STATEMENTS****HAZARDOUS TO HUMANS AND DOMESTIC ANIMALS**

**WARNING:** May be fatal if absorbed through the skin. Harmful if swallowed or inhaled. Do not get in eyes, on skin, or on clothing. Avoid inhalation of product vapor when opening the sealed packet of strips. Avoid contact with skin and eyes and wear chemical-resistant gloves when handling the strips. Wash thoroughly with soap and water after handling and before eating, drinking, chewing-gum, using tobacco or using the toilet. Wear coveralls worn over short-sleeved shirt and short pants, socks, footwear and chemical-resistant gloves. Remove and wash contaminated clothing before reuse.

**CALIFORNIA WARNING:** This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

**ENVIRONMENTAL HAZARDS**

This pesticide is highly toxic to birds, fish and aquatic invertebrates. Do not apply directly to any body of water. Do not contaminate water when disposing of used strips.

**Authorization holder:**

Véto-pharma S.A.  
14 avenue du Québec  
91140 Villebon-sur-Yvette – France

**U.S. Agent:**

Arysta LifeScience America Inc.  
New York, NY 10018  
1450 Broadway  
Tel: [212-930-5101](tel:212-930-5101)

**Safety Data Sheet**  
**acc. to ISO/DIS 11014**

Printing date 12/19/2012

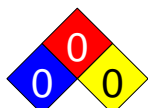
Reviewed on 12/19/2012

**1: Identification of the substance/mixture and of the company/undertaking**

- **1.1 Product identifier**
- **Trade name:** **APIVAR®**
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**  
*For use only as authorized in the State in which the U.S. Environmental Protection Agency (EPA) has granted a FIFRA Section 18 emergency exemption.*
- **Application of the substance / the preparation**  
*Preparation  
Pharma Active ingredients*
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
*Véto-pharma  
14, avenue du Québec  
Z-A. de Courtaboeuf  
91 140 VILLEBON SUR YVETTE FRANCE  
Tél: +33 (0)1 69 18 84 80  
Fax: +33 (0)1 69 28 12 93  
info@vetopharma.com  
www.vetopharma.com*
- **1.4 Emergency telephone number:**  
*NHS Direct: 0845 46 47 / Textphone: 0845 606 46 47  
CHEMTREC: 1-800-424-9300 ( North America )*

**2: Hazards identification**

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**  
*The product is not classified according to the CLP regulation.*
- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC** *Not applicable.*
- **Information concerning particular hazards for human and environment:**  
*The product does not have to be labelled due to the calculation procedure of international guidelines.*
- **Classification system:**  
*The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.*
- **2.2 Label elements**
- **Labelling according to EU guidelines:**  
*Observe the general safety regulations when handling chemicals.  
The product has not been classified and marked in accordance respective national laws.  
2008/58/CE (30eme ATP) ; 2009/2/CE (31eme ATP) ; 2006/8/CE*
- **Safety phrases:**  
*2 Keep out of the reach of children.*
- **Special labelling of certain preparations:**  
*Contains amitraz (ISO). May produce an allergic reaction.*
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



Health = 0  
Fire = 0  
Reactivity = 0

(Contd. on page 2)

USA



## Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 12/19/2012

Reviewed on 12/19/2012

**Trade name: APIVAR®**

(Contd. of page 1)

**· HMIS-ratings (scale 0 - 4)**


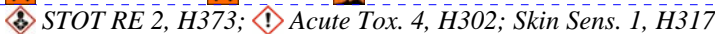
HEALTH	0	Health = *0
FIRE	0	Fire = 0
REACTIVITY	0	Reactivity = 0

- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

### 3: Composition/information on ingredients

- **3.2 Chemical characterization: Mixtures**
- **Description:** Mixture: consisting of the following components.

**· Dangerous components:**

CAS: 33089-61-1 EINECS: 251-375-4 Index number: 612-086-00-2 RTECS: ZF 0480000	amitraz (ISO)  	3.33%
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### 4: First aid measures

- **4.1 Description of first aid measures**
- **General information:** No special measures required.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** If symptoms persist consult doctor.
- **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### 5: Firefighting measures

- **5.1 Suitable extinguishing agents:**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **5.2 Special hazards arising from the substance or mixture**  
Formation of toxic gases is possible during heating or in case of fire.
- **5.3 Advice for firefighters**
- **Protective equipment:**  
Do not inhale explosion gases or combustion gases.  
No special measures required.

### 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures** Not required.
- **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:** Pick up mechanically.

(Contd. on page 3)

**Safety Data Sheet**  
**acc. to ISO/DIS 11014**

Printing date 12/19/2012

Reviewed on 12/19/2012

**Trade name: APIVAR®**

(Contd. of page 2)

- **6.4 Reference to other sections**  
*No dangerous substances are released.*  
*See Section 7 for information on safe handling.*  
*See Section 8 for information on personal protection equipment.*  
*See Section 13 for disposal information.*

**7: Handling and storage**

- **7.1 Precautions for safe handling** *No special measures required.*
- **Information about protection against explosions and fires:** *No special measures required.*
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** *No special requirements.*
- **Information about storage in one common storage facility:** *Not required.*
- **Further information about storage conditions:** *None.*
- **7.3 Specific end use(s)** *No further relevant information available.*

**8: Exposure controls/personal protection**

- **Additional information about design of technical systems:** *No further data; see item 7.*
- **8.1 Control parameters**
- **Components with limit values that require monitoring at the workplace:**  
*The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.*
- **Additional information:** *The lists that were valid during the creation were used as basis.*
- **8.2 Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
*The usual precautionary measures for handling chemicals should be followed.*
- **Breathing equipment:** *Not required.*
- **Protection of hands:**



Protective gloves

*The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.*

- **Material of gloves**  
*The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.*
- **Eye protection:** *Not required.*

USA

(Contd. on page 4)

**Safety Data Sheet**  
acc. to ISO/DIS 11014

Printing date 12/19/2012

Reviewed on 12/19/2012

Trade name: APIVAR®

(Contd. of page 3)

**9: Physical and chemical properties**

· **9.1 Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

· <b>Form:</b>	Solid
· <b>Color:</b>	Opaque
· <b>Odor:</b>	Characteristic
· <b>Odour threshold:</b>	Not determined.

· **pH-value:** Not applicable.

· **Change in condition**

· <b>Melting point/Melting range:</b>	Undetermined.
· <b>Boiling point/Boiling range:</b>	Undetermined.

· **Flash point:** Not applicable.

· **Flammability (solid, gaseous):** Not determined.

· **Ignition temperature:** Not applicable.

· **Decomposition temperature:** Not determined.

· **Auto igniting:** Product is not selfigniting.

· **Danger of explosion:** Product does not present an explosion hazard.

· **Explosion limits:**

· <b>Lower:</b>	Not determined.
· <b>Upper:</b>	Not determined.

· **Vapor pressure:** Not applicable.

· **Density:** Not determined.

· **Relative density** Not determined.

· **Vapour density** Not applicable.

· **Evaporation rate** Not applicable.

· **Solubility in / Miscibility with**

· **Water:** Insoluble.

· **Partition coefficient (n-octanol/water):** Not determined.

· **Viscosity:**

· <b>Dynamic:</b>	Not applicable.
· <b>Kinematic:</b>	Not applicable.

· **Solvent content:**

· **Organic solvents:** 0.0 %

· **Solids content:** 3.3 %

· **9.2 Other information** No further relevant information available.

**10: Stability and reactivity**

· **10.1 Reactivity**

· **10.2 Chemical stability**

· **Thermal decomposition / conditions to be avoided:** To avoid thermal decomposition do not overheat.

· **Stable until:** 2 ans

(Contd. on page 5)

**Safety Data Sheet**  
acc. to ISO/DIS 11014

Printing date 12/19/2012

Reviewed on 12/19/2012

**Trade name: APIVAR®**

(Contd. of page 4)

- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

**11: Toxicological information**

- **11.1 Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**  
The product is not subject to classification according to internally approved calculation methods for preparations:  
When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.
- **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

**12: Ecological information**

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
Water hazard class 3 (Self-assessment): extremely hazardous for water  
Do not allow product to reach ground water, water course or sewage system, even in small quantities.  
Danger to drinking water if even extremely small quantities leak into the ground.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

**13: Disposal considerations**

- **13.1 Waste treatment methods**
- **Recommendation:** Smaller quantities can be disposed of with household waste.

(Contd. on page 6)

**Safety Data Sheet**  
acc. to ISO/DIS 11014

Printing date 12/19/2012

Reviewed on 12/19/2012

Trade name: APIVAR®

(Contd. of page 5)

- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

**14: Transport information**

- **14.1 UN-Number**  
· **ADR, ADN, IMDG, IATA** not regulated
- **14.2 UN proper shipping name**  
· **ADR** non regulated  
· **ADN, IMDG, IATA** not regulated
- **14.3 Transport hazard class(es)**  
· **ADR, ADN, IMDG, IATA**  
· **Class** not regulated
- **14.4 Packing group**  
· **ADR, IMDG, IATA** not regulated
- **14.5 Environmental hazards:**  
· **Marine pollutant:** No
- **14.6 Special precautions for user** Not applicable.
- **14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.
- **Transport/Additional information:** D.O.T : Not regulated
- **UN "Model Regulation":** -

**15: Regulatory information**

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Sara**

· **Section 355 (extremely hazardous substances):**

None of the ingredient is listed.

· **Section 313 (Specific toxic chemical listings):**

33089-61-1 | amitraz (ISO)

· **TSCA (Toxic Substances Control Act):**

24937-78-8 | ethylene vinyl acetate copolymer

· **Proposition 65**

· **Chemicals known to cause cancer:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

(Contd. on page 7)

**Safety Data Sheet**  
acc. to ISO/DIS 11014

Printing date 12/19/2012

Reviewed on 12/19/2012

Trade name: APIVAR®

(Contd. of page 6)

· **Chemicals known to cause developmental toxicity:**

33089-61-1 amitraz (ISO)

· **Carcinogenicity categories**· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

· **TLV (Threshold Limit Value established by ACGIH)**

None of the ingredients is listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

ACGIH: American Conference of Governmental Industrial Hygienists

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

Attachment 7



<b>DEPARTMENT INFORMATION</b>	
<b>Commissioner's Office</b>	
<b>Bureaus &amp; Divisions</b>	
All-Terrain Vehicles, Snowmobiles, and Watercraft	
Education	
Employment	
Fishing	
Grants	
Hunting and Trapping	
Laws and Rules	
Licenses and Permits	
News and Events	
<b>Wildlife</b>	
Disease	
Groups & Programs	
Management	
Rehabilitation	
<b>Species Information</b>	
Surveys & Reports	
Where to See Wildlife	

[Home](#) > [Wildlife](#) > [Species Information](#) > [Maine Endangered Species Program](#) > [Endangered and Threatened Species](#) > State List

## Maine Endangered Species Program/State List

- [Maine Endangered Species](#)
- [Maine Threatened Species](#)

**The following species are listed under the Maine Endangered Species Act:**  
**F = Federally Endangered** under the U.S. Endangered Species Act  
**f = federally threatened** under the U.S. Endangered Species Act

### Maine Endangered Species

#### Birds

- [American Pipit](#) (*Anthus rubescens*) (Breeding population only)
- [Black Tern](#) (*Chlidonias niger*)
- [Golden Eagle](#) (*Aquila chrysaetos*)
- [Grasshopper Sparrow](#) (*Ammodramus savannarum*)
- Least Bittern (*Lxobrychus exilis*)
- [Least Tern](#) (*Sterna antillarum*)
- [Peregrine Falcon](#) (*Falco peregrinus*) (Breeding population only)
- [Piping Plover](#) (*Charadrius melodus*) **f**
- [Roseate Tern](#) (*Sterna dougallii*) **F**
- [Sedge Wren](#) (*Cistothorus platensis*)

#### Fish

- Redfin Pickerel (*Esox americanus americanus*)

#### Invertebrates

##### Butterflies and Skippers

- [Clayton's Copper](#) (*Lycaena dorcas claytoni*)
- [Edwards' Hairstreak](#) (*Satyrium edwardsii*)
- [Hessel's Hairstreak](#) (*Callophrys hesseli*)
- Juniper hairstreak (*Callophrys gryneus*)
- [Katahdin Arctic](#) (*Oeneis polixenes katahdin*)

##### Dragonflies and Damselflies

Attachment 7

Rapids Clubtail (*Gomphus quadricolor*)

**Mayflies**

[Flat-Headed Mayfly \(Roaring Brook Mayfly\)](#) (*Epeorus frisoni*)

**Mammals**

New England Cottontail (*Sylvilagus transitionalis*)

**Reptiles**

**Snakes**

[Black Racer](#) (*Coluber constrictor*)

**Turtles**

[Blanding's Turtle](#) (*Emys blandingii*)

[Box Turtle](#) (*Terrapene carolina*)

**Maine Threatened Species**

**Birds**

[Arctic Tern](#) (*Sterna paradisaea*)

[Atlantic Puffin](#) (*Fratercula arctica*)

Barrow's Goldeneye (*Bucephala islandica*)

Black-crowned Night Heron (*Nycticorax nycticorax*)

Common Moorhen (*Gallinula chloropus*)

Great Cormorant (*Phalacrocorax carbo*) (Breeding population only)

[Harlequin Duck](#) (*Histrionicus histrionicus*)

[Razorbill](#) (*Alca torda*)

*Short-eared Owl* (*Asio flammeus*) (Breeding population only)

[Upland Sandpiper](#) (*Bartramia longicauda*)

**Fish**

[Swamp Darter](#) (*Etheostoma fusiforme*)

**Invertebrates**

**Butterflies and Moths**

Purple Lesser Fritillary (*Boloria chariclea grandis*)

Sleepy Duskywing (*Erynnis brizo*)

**Dragonflies and Damselflies**

Boreal Snaketail (*Ophiogomphus colubrinus*)

[Ringed Boghaunter](#) (*Williamsonia lintneri*)

**Freshwater Mussels**



Attachment 7

Brook Floater (*Alasmidonta varicosa*)

[Tidewater Mucket](#) (*Leptodea ochracea*)

[Yellow Lampmussel](#) (*Lampsilis cariosa*)

**Mayflies**

[Tomah Mayfly](#) (*Siphonisca aerodromia*)

**Moths**

Pine Barrens Zanclognatha  
(*Aanclognatha martha*)

Twilight Moth (*Lucia rachalae*)

**Mammals**

[Northern Bog Lemming](#) (*Synaptomys borealis*)

**Reptiles**

**Turtles**

[Spotted Turtle](#) (*Clemmys guttata*)

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