

**K9 Advantix® II**

Version	Revision Date:	SDS Number:	Date of last issue: 11/07/2019
5.0	11/08/2019	122000003695	Date of first issue: 12/22/2010

SECTION 1. IDENTIFICATION**Product information**

Product Name : K9 Advantix® II
SDS Number : 122000003695

Use : Biocidal product

Company

Bayer HealthCare, LLC
Animal Health Division
12707 Shawnee Mission Parkway
(West 63rd)
Shawnee, KS 66216-1846
UNITED STATES OF AMERICA
(800) 633-3796

In case of emergency: (800) 422-9874
Chemtrec: (800) 424-9300
BAYER INFORMATION PHONE: (800) 633-3796
INTERNATIONAL: (703) 527-3887

SECTION 2. HAZARDS IDENTIFICATION**GHS classification in accordance with 29 CFR 1910.1200**

Acute toxicity (Inhalation) : Category 4
Skin irritation : Category 2
Eye irritation : Category 2A
Reproductive toxicity : Category 1B
Specific target organ toxicity : Category 3 (Respiratory system)
- single exposure

GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : H315 Causes skin irritation.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.
H360D May damage the unborn child.

Precautionary statements : **Prevention:**

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P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
Permethrin	52645-53-1	44.0149
1-Methyl-2-pyrrolidone	872-50-4	42.207
Imidacloprid	138261-41-3	8.803
pyriproxyfen	95737-68-1	0.44

SECTION 4. FIRST AID MEASURES

General advice : No hazards which require special first aid measures.

If inhaled : Not an expected entry route.

In case of skin contact : After contact with skin, wash immediately with plenty of soap and water.
If skin reactions occur, contact a physician.

In case of eye contact : In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

If swallowed : In case of accidental ingestion, contact your regional poison center or physician immediately.

Most important symptoms and effects, both acute and delayed : No information available.

Protection of first-aiders : No special precautions are necessary for first aid responders.

Notes to physician : No information available.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media : High volume water jet

Specific hazards during fire-fighting : Fire may cause evolution of:
Carbon monoxide (CO)
Carbon dioxide (CO₂)
Nitrogen oxides (NO_x)
Hydrogen cyanide (hydrocyanic acid)
Hydrogen chloride gas

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Further information : Prevent fire extinguishing water from contaminating surface water or the ground water system.
 Special protective equipment : In the event of fire, wear self-contained breathing apparatus for firefighters

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Avoid formation of aerosol.
 Methods and materials for containment and cleaning up : Cover spilled product with liquid-binding material (sand, silica gel, acid binder, universal binder, hybilat). Take up mechanically and fill into labeled, closable containers.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion : No special protective measures against fire required.
 Advice on safe handling : Avoid formation of aerosol.
 Conditions for safe storage : Store at temperatures and conditions as indicated on the product label.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Components with workplace control parameters**

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Permethrin	52645-53-1	SUP	10 mg/m ³	
1-Methyl-2-pyrrolidone	872-50-4	TWA	10 ppm	US WEEL
Imidacloprid	138261-41-3	Bayer OES	0.7 mg/m ³	TRGS901

Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
1-Methyl-2-pyrrolidone	872-50-4	5-Hydroxy-N-methyl-2-pyrrolidone	Urine	End of shift (As soon as possible after exposure ceases)	100 mg/l	ACGIH BEI

Personal protective equipment

Respiratory protection : Recommended Filter type:
 Organic vapor with prefilter
 None required for consumer use of this product.
 Hand protection
 Material : Chemically resistant gloves.

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Remarks	: None required for consumer use of this product.
Eye protection	: Safety glasses
	None required for consumer use of this product.
Protective measures	: Wear suitable protective equipment.
	Please consult label for end-user requirements.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: liquid
Colour	: tan
Odour	: very faint
pH	: 3.0 - 5.5
	Concentration: 100 g/l
Boiling point/boiling range	: 383 °F / 195 °C
	Method: DIN 53171
Flash point	: > 199.9 °F / > 93.3 °C
Density	: 1.1360 g/cm ³ (68 °F / 20 °C)
	Method: DIN 51757
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Impact sensitivity	: No data available
Minimum ignition energy	: No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	: No data available
Chemical stability	: No data available
Possibility of hazardous reactions	: No data available
Conditions to avoid	: No data available
Incompatible materials	: Peroxides
	Bases
	Strong acids
Hazardous decomposition products	: Carbon monoxide (CO)
	Carbon dioxide (CO ₂)

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product:

Acute oral toxicity	: LD50 (Rat, female): > 2,000 mg/kg
	Method: OECD 425

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Acute inhalation toxicity : LC50 (Rat): > 2.86 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist/aerosol
Method: OECD 403

Acute dermal toxicity : LD50 (Rat): > 5,000 mg/kg
Method: OECD 402
Assessment: No adverse effect has been observed in acute toxicity tests.

Components:**Permethrin:**

Acute oral toxicity : LD50 (Rat): 430 mg/kg

Acute inhalation toxicity : LC50 (Rat): 2.3 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist/aerosol

Acute dermal toxicity : LD50 (Rat): > 2,500 mg/kg

1-Methyl-2-pyrrolidone:

Acute oral toxicity : LD50 (Rat): 4,150 mg/kg
Method: OECD 401

Acute inhalation toxicity : LC50 (Rat): > 5.1 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist/aerosol
Method: OECD 403
Assessment: No adverse effect has been observed in acute toxicity tests.

Acute dermal toxicity : LD50 (Rat): > 5,000 mg/kg
Method: OECD 402
Assessment: No adverse effect has been observed in acute toxicity tests.

Imidacloprid:

Acute oral toxicity : LD50 (Rat): 424 mg/kg
Method: OECD 401

Acute inhalation toxicity : LC50 (Rat): > 5.323 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist/aerosol
Method: OECD 403

Acute dermal toxicity : LD50 (Rat): > 5,000 mg/kg

pyriproxyfen:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
Assessment: No adverse effect has been observed in acute

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toxicity tests.

Skin corrosion/irritation**Product:**

Species	:	Rabbit
Method	:	OECD 404
Result	:	Moderate skin irritation

Components:**Permethrin:**

Species	:	Rabbit
Result	:	No skin irritation

1-Methyl-2-pyrrolidone:

Species	:	Rabbit
Result	:	Skin irritation

Imidacloprid:

Species	:	Rabbit
Result	:	No skin irritation

pyriproxyfen:

Species	:	Rabbit
Result	:	No skin irritation

Serious eye damage/eye irritation**Product:**

Species	:	Rabbit
Result	:	Moderate eye irritation
Method	:	OECD 405

Components:**1-Methyl-2-pyrrolidone:**

Species	:	Rabbit
Result	:	Irritating to eyes.

Imidacloprid:

Species	:	Rabbit
Result	:	No eye irritation

Respiratory or skin sensitisation**Product:**

Test Type	:	Skin sensitisation
Species	:	Guinea pig

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Method : Buehler Test
Result : Does not cause skin sensitisation.

Components:**Permethrin:**

Result : May cause sensitisation by skin contact.

1-Methyl-2-pyrrolidone:

Test Type : Skin sensitisation
Species : Mouse
Method : OECD 429
Result : Does not cause skin sensitisation.
Test substance : Data on a comparable substance

Test Type : Skin sensitisation
Species : Human experience
Method : Patch Test
Result : Does not cause skin sensitisation.

Imidacloprid:

Test Type : Skin sensitisation
Species : Guinea pig
Method : Magnusson and Kligmann maximization test
Result : Did not cause sensitisation on laboratory animals.

pyriproxyfen:

Method : Magnusson and Kligmann maximization test
Result : Does not cause skin sensitisation.

Germ cell mutagenicity**Components:****1-Methyl-2-pyrrolidone:**

Genotoxicity in vitro : Test Type: Bacterial mutagenicity
Result: No indication of mutagenic effects.

Genotoxicity in vivo : Remarks: In vivo tests did not show mutagenic effects

Imidacloprid:

Genotoxicity in vitro : Test Type: Ames test
Result: negative

Remarks: In vitro tests did not show mutagenic effects

Genotoxicity in vivo : Result: No indication of mutagenic effects., No evidence of a genotoxic effect.

pyriproxyfen:

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Genotoxicity in vitro : Test Type: Ames test
Result: negative

Test Type: V79-HPRT Forward Mutation Assay
Result: negative

Test Type: In vitro Cytogenetic Test
Result: negative

Test Type: DNA damage and/or repair
Result: negative

Genotoxicity in vivo : Test Type: Micronucleus test
Species: Mouse
Result: No evidence of a genotoxic effect.

Carcinogenicity**Components:****1-Methyl-2-pyrrolidone:**

Result : Animal testing did not show any carcinogenic effects.

Imidacloprid:

Result : Animal testing did not show any carcinogenic effects.

pyriproxyfen:

Species : Rat
Result : negative

IARC No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity**Components:****1-Methyl-2-pyrrolidone:**

Effects on fertility : Species: Rat
Application Route: Oral
General Toxicity - Parent: LOAEL: 500 mg/kg body weight
Fertility: NOAEL: 350 mg/kg body weight
Method: OECD 416
Result: Animal studies have produced evidence a fertility-reducing effect.

Effects on foetal develop- : Species: Rat

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Application Route: Oral
Frequency of Treatment: 1 daily
Developmental Toxicity: NOAEL: 160 mg/kg body weight
Method: OECD 416
Result: May damage the unborn child.

Imidacloprid:**STOT - single exposure****Components:****1-Methyl-2-pyrrolidone:**

Assessment : May cause respiratory irritation.

STOT - repeated exposure**Components:****Imidacloprid:**

Assessment : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Further information**Components:****Permethrin:**

Pharmaceutic effects

Remarks : Insecticide

Remarks : Cutaneous sensations may occur, such as burning or stinging on the face and mucosae. However, these sensations cause no lesions and are of a transitory nature (max. 24 hours).

1-Methyl-2-pyrrolidone:

Remarks : Dermal absorption possible

Imidacloprid:

Pharmaceutic effects

Remarks : Insecticide

pyriproxyfen:

Pharmaceutic effects

Remarks : Insecticide

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SECTION 12. ECOLOGICAL INFORMATION**Ecotoxicity****Components:****Permethrin:**

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.00017 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants : EC50: 0.5 mg/l
Exposure time: 72 h

1-Methyl-2-pyrrolidone:

Toxicity to fish : LC50 (Leuciscus idus (Golden orfe)): > 500 mg/l
Exposure time: 96 h
Test Type: Acute Fish toxicity

Toxicity to daphnia and other aquatic invertebrates : LC50 (Daphnia magna (Water flea)): > 1,000 mg/l
Exposure time: 24 h
Method: DIN 38412

NOEC (Daphnia magna (Water flea)): 1,000 mg/l
Exposure time: 24 h
Method: DIN 38412

Toxicity to algae/aquatic plants : EC50 (Desmodesmus subspicatus (green algae)): > 500 mg/l
Exposure time: 72 h

Toxicity to microorganisms : EC20: > 600 mg/l
Exposure time: 0.5 h
Method: OECD 209

Imidacloprid:

Toxicity to fish : LC50 (Leuciscus idus (Golden orfe)): 237 mg/l
Exposure time: 96 h
Test Type: Acute Fish toxicity

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 85 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l
Exposure time: 72 h

EC50 (Desmodesmus subspicatus (green algae)): > 10 mg/l
Exposure time: 72 h

Toxicity to microorganisms : EC50 (Activated sludge micro-organism): > 10,000 mg/l
Method: OECD 209

pyriproxyfen:

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Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 0.33 - 0.37 mg/l Exposure time: 96 h Test Type: Acute Fish toxicity
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0.4 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	IC50 (Pseudokirchneriella subcapitata (green algae)): 0.064 mg/l Exposure time: 72 h

Persistence and degradability**Components:****Permethrin:**

Biodegradability	:	Result: Not rapidly biodegradable Biodegradation: 0 % Testing period: 7 d Exposure time: 28 d Kinetic: 7 d: 0 % 14 d: 0 % 21 d: 0 % 28 d: 0 %
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1-Methyl-2-pyrrolidone:

Biodegradability	:	Result: Readily biodegradable. Biodegradation: > 90 % Method: OECD 301E
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Biochemical Oxygen Demand (BOD)	:	2 mg/g Incubation time: 5 d
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Chemical Oxygen Demand (COD)	:	1,600 mg/l
ThOD	:	1,939 mg/g

Imidacloprid:

Stability in water	:	Degradation half life: > 1 a (25 °C) pH: 4 Hydrolysis: at 25 °C Degradation half life: > 1 a (25 °C) pH: 7 Hydrolysis: at 25 °C Degradation half life: ca. 1 h (25 °C) pH: 9 Hydrolysis: at 25 °C
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pyriproxyfen:

Biodegradability	:	Result: Not rapidly biodegradable Method: OECD 301 D
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Bioaccumulative potential**Components:****Permethrin:**

Partition coefficient: n-octanol/water : log Pow: 5.95

1-Methyl-2-pyrrolidone:

Partition coefficient: n-octanol/water : log Pow: -0.46

Imidacloprid:

Bioaccumulation : Remarks: Low potential for bioaccumulation

Partition coefficient: n-octanol/water : log Pow: 0.57 (70 °F / 21 °C)
Method: OECD 107

pyriproxyfen:

Bioaccumulation : Bioconcentration factor (BCF): 1,500

Partition coefficient: n-octanol/water : log Pow: 5.37 (77 °F / 25 °C)

Mobility in soil

No data available

Other adverse effects**Product:****Components:****Imidacloprid:**

Adsorbed organic bound halogens (AOX) : Remarks: The product contains organic halogens.

SECTION 13. DISPOSAL CONSIDERATIONS**Disposal methods**

Waste from residues : If discarded in its purchased form, this product would not be a hazardous waste either by listing or by characteristic. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste. (40 CFR 261.20-24)

SECTION 14. TRANSPORT INFORMATION**US Land transport (CFR)**

Non-regulated

Sea transport (IMDG)

UN Number

3082

Description of the goods

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

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Class	N.O.S. (IMIDACLOPRID, PERMETHRIN)
Packaging group	9
IMDG-Labels	III
EmS Number	9
Marine pollutant	F-A
	yes
<u>Air transport (IATA)</u>	
UN Number	3082
Description of the goods	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (IMIDACLOPRID, PERMETHRIN)
Class	9
Packaging group	III
Dangerous goods labels	9
Environmentally hazardous	yes
Other information	: Environmentally hazardous substance (RID/ADR) Irritating to the eyes Marine pollutants Keep separated from foodstuffs

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Acute toxicity (any route of exposure)
Skin corrosion or irritation
Serious eye damage or eye irritation
Reproductive toxicity
Specific target organ toxicity (single or repeated exposure)

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

Permethrin	52645-53-1	44.0149 %
1-Methyl-2-pyrrolidone	872-50-4	42.207 %

Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

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This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCM Intermediate or Final VOC's (40 CFR 60.489).

Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

US State Regulations

Massachusetts Right To Know

Permethrin	52645-53-1
1-Methyl-2-pyrrolidone	872-50-4

Pennsylvania Right To Know

1-Methyl-2-pyrrolidone	872-50-4
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Maine Chemicals of High Concern

Product does not contain any listed chemicals

Vermont Chemicals of High Concern

1-Methyl-2-pyrrolidone	872-50-4
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Washington Chemicals of High Concern

1-Methyl-2-pyrrolidone	872-50-4
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New York City Hazardous Substances

2,6-Di-tert-butyl-p-cresol	128-37-0
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California Permissible Exposure Limits for Chemical Contaminants

1-Methyl-2-pyrrolidone	872-50-4
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The components of this product are reported in the following inventories:

TSCA : Substance(s) not listed on TSCA inventory

TSCA list

No substances are subject to a Significant New Use Rule.

The following substance(s) is/are subject to TSCA 12(b) export notification requirements:

1-Methyl-2-pyrrolidone	872-50-4
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SECTION 16. OTHER INFORMATION

Further information

NFPA 704:

Health - 2	Flammability - 1	Instability - 0	Others -
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HMIS® IV:

Health - 2	Flammability - 1	Instability - 0	Others -
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Full text of other abbreviations

ACGIH BEI	:	ACGIH - Biological Exposure Indices (BEI)
TRGS901	:	TRGS 901, Explanations and Basis for Exposure Limits in the Workplace Air
US WEEL	:	USA. Workplace Environmental Exposure Levels (WEEL)
TRGS901 / Bayer OES	:	BOES = Bayer Occupational Exposure Standard
US WEEL / TWA	:	8-hr TWA

Revision Date : 11/08/2019

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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