



MATERIAL SAFETY DATA SHEET

BAYER HEALTHCARE LLC
Animal Health Division
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TRANSPORTATION EMERGENCY
CALL CHEMTREC..... : (800) 424-9300
INTERNATIONAL : (703) 527-3887

NON-TRANSPORTATION
BAYER EMERGENCY PHONE : (877) 258-2280
BAYER INFORMATION PHONE: (800) 633-3796

Section 1: Product and Company Identification

Product Name: Advantage Multi for Dogs
Material Number: 8891462

Section 2: Composition/Information on Ingredients

HAZARDOUS INGREDIENTS

<u>Ingredient Name/ CAS Number</u>	<u>Exposure Limits</u>	<u>Concentration</u>	
		<u>Min.</u>	<u>Max.</u>
Aromatic alcohol CAS# is a trade secret	OSHA (PEL): Not Established ACGIH (TLV): Not Established	60%	100%
Carbonate derivative CAS# is a trade secret	OSHA (PEL): Not Established ACGIH (TLV): Not Established	10%	30%
Imidacloprid 138261-41-3	OSHA (PEL): Not Established ACGIH (TLV): Not Established	7%	13%
Moxidectin 113507-06-5	OSHA (PEL): Not Established ACGIH (TLV): Not Established	1%	5%

Section 3: Hazards Identification

EMERGENCY OVERVIEW

CAUTION! **Color:** Light tan to light yellow **Form:** Liquid Pipettes **Odor:** Mild
May cause respiratory tract irritation. Inhalation may cause nausea or dizziness. May cause eye irritation. May be harmful if swallowed.

POTENTIAL HEALTH EFFECTS

Route(s) of Entry: Eye Contact, Inhalation, Skin Contact

HUMAN EFFECTS AND SYMPTOMS OF OVEREXPOSURE

Inhalation Hazards

Acute Inhalation Hazards: May cause respiratory tract irritation with symptoms of coughing, sore throat and runny nose. Overexposure to vapor may produce dizziness, drowsiness, or nausea.

Skin Hazards

Acute Skin Hazards: May cause slight irritation.

Eye Hazards

Acute Eye Hazards: May cause irritation with symptoms of reddening, tearing and stinging.

Ingestion Hazards

Acute Ingestion Hazards: Moderately toxic by ingestion.

General Effects of Exposure

Chronic Effects of Exposure: Prolonged contact with this product may cause defatting of the skin due to the solvent component in the product.

Carcinogenic Components:

NTP: None

IARC: None

OSHA: None

Medical Conditions

Aggravated by Exposure: Eye disorders, Skin disorders, Respiratory tract disorders

Section 4: First Aid Measures

First Aid for Eye: Use fingers to ensure that eyelids are separated and that the eye is being irrigated. Get medical attention if irritation develops or persists.

First Aid for Skin: In case of skin contact, wash affected areas with soap and water.

Contact a physician if irritation develops.

First Aid for Inhalation: If inhaled, remove to fresh air. If breathing is difficult, give oxygen. Call a physician.

First Aid for Ingestion: Contact a physician or Poison Control Center. Give two glasses of water for dilution. Avoid alcohol. If ingested, do not induce vomiting unless directed to do so by medical personnel. Do not give anything by mouth to an unconscious person.

Note to Physician: In case of human or animal poisoning, please contact the poison control center at (800) 414-0244. Please also notify Bayer at (877) 258-2280.

Section 5: Fire Fighting Measures

Flash Point: > 200 °F

Flammable Limits:

Upper Explosion Limit Not Established

(UEL %):

Lower Explosion Limit Not Established

(LEL %):

Extinguishing Media:

Suitable: Water, Carbon Dioxide, Dry Chemical, Foam

Special Fire Fighting Procedures: Firefighters should be equipped with self-contained breathing apparatus to protect against potentially toxic and irritating fumes. Do not allow fire fighting water to enter sewer, surface waters, or ground water systems. Equipment and materials used in fighting pesticide fires may become contaminated.

Section 6: Accidental Release Measures

Spill or Leak Procedures: Evacuate and keep unnecessary people out of spill area. Use appropriate personal protective equipment during clean up. Recover uncontaminated product, if possible. Cover spill with inert material (e. g., dry sand or earth) and collect for proper disposal. Wash spill area with soap and water. Soil, absorbents, and other materials that are contaminated by the spilled product should be collected for proper disposal. Do not allow spilled material or wash water to enter sewers, surface waters, or groundwater systems.

Section 7: Handling and Storage

Storage Temperature:
Maximum: 100 °F

Shelf Life: Not Established

Special Sensitivity: Not Established

Handling/Storage Precautions: Store in a dry place in original or waterproof containers. Store separate from food products. Store in an area designated specifically for pesticides. Avoid contact with eyes. Avoid excessive contact with skin or clothing.

Section 8: Exposure Controls/Personal Protection

Personal Protection Equipment

Eye Protection Requirements: Chemical safety goggles or glasses.

Skin Protection Requirements: Gloves, long sleeved shirts and pants.

Ventilation Requirements: Under normal conditions of use, special ventilation is not required.

Respirator Requirements: A NIOSH approved air purifying respirator with organic vapor cartridges and particulate prefilter can be used to minimize exposure.

Additional Protective Measures: Emergency showers and eye wash stations should be available. Educate and train employees in the safe use and handling of this product. Follow all label instructions. Launder clothing separately after use. Employees should wash their hands and face before eating, drinking, or using tobacco products.

Section 9: Physical and Chemical Properties

Physical Form: Liquid
Appearance: Pipettes
Color: Light tan to light yellow
Odor: Mild
Odor Threshold: Not Established
pH: Not Applicable
Boiling Point: Not Established
Melting/Freezing Point: Not Established
Solubility in Water: Soluble
Specific Gravity: 1.093 - 1.103 @ 20 °C
Bulk Density: Not Applicable
Vapor Pressure: Not Established
Vapor Density: Not Established

Section 10: Stability and Reactivity

Stability: Stable

Hazardous Polymerization: Will not occur

Substances to Avoid: Oxidizing agents

Conditions to Avoid: Avoid extreme heat.

Decomposition Products: Carbon monoxide, Carbon Dioxide, Oxides of Nitrogen, Hydrogen cyanide, Hydrogen chloride, Propylene Oxide

Section 11: Toxicological Information

Toxicity Data for Advantage Multi for Dogs

Toxicity Data for Aromatic alcohol

Acute oral toxicity: LD50 = 1,230 mg/kg bw (Rat)

Eye Irritation: Moderately irritating (Rabbit)

Skin Irritation: Moderately irritating 24 h, (Rabbit)

Toxicity Data for Carbonate derivative

Acute oral toxicity: LD50 = > 5,000 mg/kg bw (Rat)

Acute dermal toxicity: LD50 = > 5,000 mg/kg bw (Rabbit)

Eye Irritation: Moderately irritating (Rabbit)

Skin Irritation: Moderately irritating (Rabbit)

Sensitization: Non-sensitizer dermal (Human) Patch Test

Mutagenicity: Ames, with/without, negative

Toxicity Data for Imidacloprid

Acute oral toxicity: LD50 = 424 mg/kg bw (Male Rat)

LD50 = 450 - 475 mg/kg bw (Female Rat)

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

Acute inhalation toxicity: > 0.07 mg/L, 4 hrs, aerosol (Rat)

> 5.32 mg/L, 4 hrs, dust/particulate (Rat)

Eye Irritation: Slightly irritating (Rabbit)

Skin Irritation: Non-irritating (Rabbit)

Sensitization: Non-sensitizer (Guinea pig)

Repeated Dose Toxicity: In a 3 week dermal toxicity study, rabbits were treated with the active ingredient, imidacloprid, at the limit dose level of 1000 mg/kg for 6 hours/day, 7 days/week. There were no local or systemic effects observed at any of the levels tested. The no-observed-effect-level (NOEL) was 1000 mg/kg. In a 4 week inhalation study, rats were exposed to dust concentrations of imidacloprid at 5.5, 30.5 and 191.2 mg/m³ for 6 hours/day, 5 days/week. Effects observed at the high concentration included decreased body weight gains, decreased heart and thymus weights, increased liver weights, and induction of

the hepatic mixed-function oxidases. Histopathological examinations did not reveal any organ damage or local injury to the respiratory tract. The NOEL was 5.5 mg/m³ based on induction of the hepatic mixed-function oxidases.

Carcinogenicity:

Imidacloprid was investigated for carcinogenicity in chronic feeding studies using mice and rats at maximum levels of 2000 and 1800 ppm, respectively. There was no evidence of a carcinogenic potential observed in either species.

Mutagenicity:

Non-mutagenic. Non-genotoxic.

Developmental Toxicity/Teratogenicity:

In a developmental toxicity study using rats, imidacloprid was administered by oral gavage during gestation at doses of 10, 30 or 100 mg/kg. At the maternally toxic dose of 100 mg/kg, skeletal examinations of the fetuses revealed a slight increase in the incidence of wavy ribs. The NOELs for maternal and developmental toxicity were 10 and 30 mg/kg, respectively. Teratogenic effects were not observed at any of the doses tested. Rabbits were administered imidacloprid during gestation at oral doses of 8, 24 or 72 mg/kg. At the maternally toxic dose of 72 mg/kg, reduced body weights and delayed skeletal ossification were observed in the fetuses. The NOELs for maternal and developmental toxicity were 8 and 24 mg/kg, respectively. Teratogenic effects were not observed at any of the doses tested.

Toxicity to Reproduction/Fertility:

In a reproduction study, imidacloprid was administered to rats for 2 generations at dietary concentrations of 100, 250 or 700 ppm. Offspring at 700 ppm, exhibited reduced mean body weights and body weight gains. No other reproductive effects were observed. The maternal and reproductive NOELs were 100 and 250 ppm, respectively.

Neurotoxicity:

In an acute neurotoxicity screening study using rats, imidacloprid was administered as a single oral dose at levels of 42, 151, or 307 mg/kg. Clinical observations and neurotoxicity evaluations were performed over a period of 15 days followed by a neurohistopathological examination. Deaths attributed to imidacloprid were observed at the high dose within a day of treatment. The NOEL for motor and locomotor activity was 42 mg/kg for males. Females at the low dose exhibited minimal decrease in activity in the figure-eight maze. In a subsequent study, the NOEL for motor and locomotor activity in females was 20 mg/kg. All clinical signs and neurobehavioral effects were ascribed to acute cholinergic toxicity, with complete recovery at sub-lethal doses within 7 days of following treatment. The NOEL for neurotoxicity was 307 mg/kg based on the absence of treatment-related microscopic lesions in skeletal muscle or neural tissue. In a 13 week neurotoxicity screening study, imidacloprid was administered to rats at dietary concentrations of 140, 963 or 3027 ppm. At the mid- and high dose, effects observed included reductions in body weight and feed consumption, and clinical chemistry findings. Neurobehavioral changes were observed only in males at the high dose. There were no correlative micropathologic findings in muscle or neural tissues in any animals at any treatment level. The NOEL for neurotoxicity was 3027 ppm. The overall NOEL was 140 ppm.

Toxicity Data for Moxidectin

Acute oral toxicity: LD50 = 106 mg/kg bw (Rat)

Acute dermal toxicity: LD50 = > 2,000 mg/kg bw (Rat)

Skin Irritation: Slightly irritating (Rabbit)

Section 12: Ecological Information

Ecological Data for Advantage Multi for Dogs

Ecological Data for Aromatic alcohol

Ecological Note: No data available for this component.

Ecological Data for Carbonate derivative

Fish Toxicity: LC50 = > 1,000 mg/L, 48 hrs. Golden orfe (*Leuciscus idus*)

Invertebrate Toxicity: EC50 = > 500 mg/L, 24 hrs. Water flea (*Daphnia magna*)

Ecological Note: No data available for this component.

Ecological Data for Imidacloprid

Ecological Note: No data available for this component.

Ecological Data for Moxidectin

Fish Toxicity: LC50 = 0.62 ug/L, Bluegill (*Lepomis macrochirus*)

0.16 ug/L, Rainbow trout (*Salmo gairdneri*)

Invertebrate Toxicity: EC50 = 0.03 ug/L, Water flea (*Daphnia magna*)

Plant Toxicity: EC50 = > 86.9 ug/L, Green algae (*Selenastrum capricornutum*)

Section 13: Disposal Considerations

Waste Disposal Method: Follow container label instructions for disposal of wastes generated during use in compliance with the FIFRA product label. In other situations, bury in an EPA approved landfill or burn in an incinerator approved for pesticide destruction. Do not reuse container.

Section 14: Transportation Information

Technical shipping name: Pesticide

Freight Class

Bulk: Insecticides, N.O.I. (NMFC 102120)

Package: Insecticides, N.O.I. (NMFC 102120)

Domestic Surface Transportation (DOT)

Hazard Class or Division: Non-Regulated

Marine Transportation (IMO / IMDG)

Hazard Class Division Non-Regulated

Number:

Air Transportation (ICAO / IATA)

Hazard Class Division Non-Regulated

Number:

Section 15: Regulatory Information

United States Federal Regulations

OSHA Hazcom Standard Rating: Hazardous

TSCA Inventory List: This product is excluded from TSCA regulation by Section 3 (2)(B)(vi) when used for FDA application.

CERCLA Hazardous Substance:

Component(s)
None

Reportable Quantity

SARA Title III

SARA Section 302 Extremely Hazardous Substances:

Component(s)/
CAS Number
None

Concentration
Min. Max.

SARA Section 311/312 Hazard Categories: Immediate Health Hazard

SARA Section 313 Toxic Chemicals:

Component(s)/
CAS Number
None

Reporting
Threshold

Concentration
Min. Max.

RCRA Status: 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)

The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections of the MSDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

State Right-to-Know Information

<u>Component(s)/ CAS Number</u>	<u>State Code</u>	<u>Concentration</u>	
		<u>Min.</u>	<u>Max.</u>
Aromatic alcohol	PA-H, NJ-N, MA-H	60%	100%
Carbonate derivative	PA-N, NJ-N	10%	30%
Imidacloprid 138261-41-3	PA-N, NJ-N	7%	13%
Moxidectin 113507-06-5	PA-N, NJ-N	1%	5%

State Code Translation Table

PA-N = Pennsylvania Non-hazardous
 PA-H = Pennsylvania Hazardous Substance List
 NJ-N = New Jersey Other - includes predominant ingredients
 MA-H = Massachusetts Hazardous Substance List

Section 16: Other Information

NFPA 704M Rating

Health	2
Flammability	1
Reactivity	0
Other	

0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme

BAYER HEALTHCARE LLC's method of hazard communication is comprised of Product Labels and Material Safety Data Sheets. HMIS and NFPA ratings are provided by BAYER HEALTHCARE LLC as a customer service.

Contact: John Sheehan
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 MSDS Number: 000000001429
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