

Section 1 - Identification of The Material and Supplier

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Product Name: Nugard Spot On For Dogs
APVMA Codes: 91036,91662,91665,91668
Product Use: Spot-on treatment for flea control, gastrointestinal worm control, and prevention of heartworm infection in dogs.
Other Names: Imidacloprid, Moxidectin, Benzyl alcohol.
This SDS covers following products:

- Nugard Spot On for puppies and dogs up to 4 kg
- Nugard Spot On for dogs 4 to 10 kg
- Nugard Spot On for dogs 10 to 25 kg
- Nugard Spot On for dogs over 25 kg

Creation Date: 22nd October 2023
Revision Date: 21st October 2028
Poisons Information Centre: Phone 13 1126 from anywhere in Australia

Section 2 - Hazards Identification

Hazard Classification: HAZARDOUS SUBSTANCE
NOT CLASSIFIED AS DANGEROUS GOODS when transported by road or rail within Australia under Special Provision AU01 of the Australian Dangerous Goods code,7th Edition.

GHS-Classification: Acute toxicity, Oral, Category 4 (H302)
Acute toxicity, Inhalation, Category 4 (H332)
Eye Irritation, Category 2 (H319)
Hazardous to the aquatic environment, Category 1(H400)
Hazardous to the aquatic environment, Category 1(H410)

Signal Word: WARNING

Hazard Statement: H302 + H332 Harmful if swallowed or if inhaled.
H319 Causes serious eye irritation.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements:

Prevention: P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P273 Avoid release to the environment.
P280 Wear protective gloves/ eye protection/ face protection.

Response: P312 Call Poisons Information 131 126 or doctor/ physician if you feel unwell.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P391 Collect spillage.

Section 3 - Composition/Information on Ingredients

Hazardous Components: Moxidectin
Concentration [Weight percent] ≥ 0.25 - < 2.5
CAS-No.: 113507-06-5
CAS name: Milbemycin B, 5-O-demethyl-28-deoxy-25-[(1E)-1,3- dimethyl-1-butenyl]-6,28-epoxy-23-(methoxyimino)-,6R,23E,25S)-
GHS Classification:
Acute Tox. 3 H301
Acute Tox. 4 H332
Repr. 2 H361
Aquatic Acute 1 H400
Aquatic Chronic 1 H410

SAFETY DATA SHEET

ImidaclopridConcentration [Weight percent] $\geq 2.5 - < 10$

CAS-No.: 138261-41-3

CAS name: 2-Imidazolidinimine, 1-((6-chloro-3-pyridinyl)methyl)- N-nitro

GHS Classification:

Acute Tox. 4 H302

Aquatic Acute 1 H400

Aquatic Chronic 1 H410

Also contains:**Benzyl alcohol**Concentration [Weight percent] $\geq 50 - \leq 100$

CAS-No.: 100-51-6

CAS name: Benzenemethanol

GHS Classification:

Acute Tox. 4 H332

Acute Tox. 4 H302

Propylene carbonateConcentration [Weight percent] $\geq 10 - < 20$

CAS-No.: 108-32-7

CAS name: 1,3-Dioxolan-2-one, 4-methyl-

GHS Classification:

Eye Irrit. 2 H319

Section 4 - First Aid Measures

Label Regulated First Aid

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| Statement: | If poisoning occurs, contact a doctor or Poisons Information Centre. Phone Australia 131126. |
| General: | Remove victim from contaminated area. If there is a risk of unconsciousness, position, and transport in a stable lateral position. Remove soiled or soaked clothing immediately. |
| Inhalation: | Harmful by inhalation. After inhalation remove from exposure and perform artificial respiration if necessary. |
| Skin contact: | Remove contaminated clothing. Wash affected area immediately with soap and water. Seek medical attention if required. |
| Eye contact: | Irritating to the eyes. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. |
| Ingestion: | Harmful if swallowed. If vomiting occurs keep head lower than hips to help prevent aspiration. Seek medical attention if required. |
| Advice to doctor: | <p>The formulation is extremely bitter and unlikely to be swallowed in significant quantity. Imidacloprid is a chloronicotinyl compound (syn. neonicotinoid) which displays high affinity for the acetylcholine site of the nicotinic acetylcholine receptor in the insect central nervous system. In insects, imidacloprid interferes with the acetylcholine-mediated transmission of nerve impulses and is an antagonist, as it depolarises the neuron.</p> <p>The mode of action of moxidectin, a milbemycin derivative, is similar to the mode of action of ivermectin and abamectin.</p> <p>Moxidectin stimulates the release of GABA and increases its binding to post-synaptic receptors. This results in an opening of the post-synaptic chloride channels and allows influx of chloride ions and induction of an irreversible resting state.</p> |

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Section 5 - Fire Fighting Measures

Extinguishing Media: Sprayed water jet, foam, dry powder, CO2, sand

Fire and Explosion Hazards: Combustible liquid - Class C1

Hazardous Combustion Products: Thermal decomposition products include hydrogen chloride, hydrogen cyanide, carbon monoxide, and nitrogen oxides.

Fire Fighting: Fight fire in the early stages if safe to do so. Wear respiratory protection. In well-ventilated areas wear full face mask with a combination filter. (Offers no protection from carbon monoxide)
In enclosed premises: respirator with independent air supply.
Contain firefighting water.

Section 6 - Accidental Release Measures

Accidental release: Use any personal protective equipment listed in Chapter 8. Prevent spillage from spreading or entering soil, waterways and drains. Take up with absorbent material such as sawdust, peat or chemical binder. Fill material along with any contaminated soil etc., into sealable containers. Clean affected area with aqueous detergent and a small amount of water. Absorb this detergent/water with absorbent material. Place cleaning materials into the same container.
Do not eat, drink or smoke during clean-up operation.
Do not breathe vapour/spray.

Section 7 - Handling and Storage

Safe Handling: During normal use the packaging ensures safe handling. Follow instructions on the product label. Suitable container materials: HDPE (high density polyethylene).

Storage: Keep out of reach of children.
Store away from food, drink or animal feeding stuffs.
To maintain product quality, store below 30°C.
Protect from temperatures below 0°C.
Keep away from heat or moisture.

Section 8 - Exposure Controls and Personal Protection

Exposure limits: No exposure allocated for imidacloprid, moxidectin or other ingredients.

Ventilation: No ventilation is required under normal conditions of use.

Eye Protection: Avoid contact with eyes. No eye protection is required under normal conditions of use. Under other conditions of use wear safety goggles

Skin Protection: Avoid contact with skin. No skin protection is required under normal conditions of use. Under other conditions of use wear rubber gloves. Wash hands before breaks and at end of work.

Protective Material Types: Rubber or latex gloves

Respirator: Do not inhale vapour. No respirator is required under normal conditions of use.

SAFETY DATA SHEET

General Advice: Avoid contact with eyes or skin. Clean working clothes and protective equipment with soap and water. Change badly soiled or soaked clothing. Wash hands before breaks and at the end of work. If product is splashed on skin, immediately wash area with soap and water. When using do not eat, drink, or smoke.

Section 9 - Physical and Chemical Properties:

Physical Description & colour: Expected to be a clear liquid. Yellow to Brownish colour.
Odour: Weak characteristic odour
Boiling Point: 207°C at 1013 hPa
Solidifying Range: No specific data.
Vapour Pressure: 2 hPa at 20°C
9 hPa at 50°C
11 hPa at 55°C
Density: Approx. 1.098 kg/L at 20°C
Water Solubility: Immiscible
pH: No data.
Flash Point: >100 °C
Ignition Temperature: 415 °C
Explosive Limits: Benzyl Alcohol: upper :13% (V) lower:1.3% (V)
Propylene carbonate: upper: 14.3% (V) lower: 1.8%(V)
Other Information: The product is packaged in individual, single dose tubes of 0.4 to 4.0 ml capacity. The tubes are packed in blister pack trays of 1, 3 or 6 tubes per tray. The product is therefore well protected from accidental release.

Section 10 - Stability and Reactivity

Chemical Stability: Product is stable. No hazardous reactions.
Conditions to Avoid: Avoid strong oxidising agents.
Incompatible Material: No data available.
Hazardous Decomposition: Thermal decomposition products include hydrogen chloride, hydrogen cyanide, carbon monoxide, and nitrogen oxides.
Hazardous Reactions: Will not polymerise.

Section 11 - Toxicological Information

Acute Toxicity: Acute oral toxicity estimate (ATE) 1,105 mg/kg Dermal LD50 (rat).
Acute inhalation toxicity estimate (ATE) 14.25 mg/l vapour.
Acute dermal toxicity:
Benzyl Alcohol
LD50 rabbit: > 2,000 mg/kg
propylene carbonate
LD50 rabbit: > 20,000 mg/kg
The substance or mixture has no acute dermal toxicity.
Imidacloprid
LD50 rat: > 5,000 mg/kg
The substance or mixture has no acute dermal toxicity.
Moxidectin
LD50 rabbit: > 2,000 mg/kg
LD50 rat: > 2,000 mg/kg

SAFETY DATA SHEET

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| Local Effects: | Eye: irritating to the eye of rabbits. Skin: Mildly irritating to the skin of rabbits. Did not cause sensitization on laboratory animals. |
| Subacute, subchronic and prolonged toxicity: | Benzyl Alcohol: NOEL 400 mg/kg, rat, Exposure time 90-day STOT - single exposure: No statements available. |
| Reproductive Effects: | Did not show teratogenic effects in animal experiments. |
| Mutagenicity: | In vitro tests did not show mutagenic effects. |
| Carcinogenic Effects: | Animal testing did not show any carcinogenic effects. |

Section 12 - Ecological Information

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| Ecotoxicology Assessment: | Imidacloprid: Acute aquatic toxicity: Very toxic to aquatic life. Chronic aquatic toxicity: Very toxic to aquatic life with long lasting effects. |
| Toxicity: | Toxicity to fish: Benzyl alcohol Acute Fish toxicity: LC50 10 mg/L Test species: <i>Lepomis macrochirus</i> (Bluegill) Duration of test: 96 h Propylene carbonate Static test: LC50 ca. 5,300 mg/l Test species: <i>Leuciscus idus</i> (Golden orfe) Duration of test: 96 h Imidacloprid Acute Fish toxicity: LC50 280 mg/L Test species: <i>Cyprinus carpio</i> (Carp) Duration of test: 96 h Acute Fish toxicity: LC50 211 mg/L Test species: <i>Oncorhynchus mykiss</i> (rainbow trout) Duration of test: 96h Acute Fish toxicity: LC50 237 mg/L Test species: <i>Leuciscus idus</i> (Golden orfe) Duration of test: 96 h Moxidectin Acute Fish toxicity: LC50 0,16 µg/L Test species: <i>Oncorhynchus mykiss</i> (rainbow trout) LC50 0,62 µg/L Test species: <i>Lepomis macrochirus</i> (Bluegill) Toxicity to daphnia and other aquatic invertebrates: Benzyl Alcohol EC50 55 mg/L Test species: <i>Daphnia magna</i> (Water flea) Duration of test: 24 h Propylene carbonate Static test EC50 > 500 mg/l Test species: <i>Daphnia magna</i> (Water flea) Duration of test: 48 h |

SAFETY DATA SHEET

Imidacloprid
EC50 0.055 mg/L
Test species: *Hyalella Azteca*
Duration of test: 96 h

Moxidectin
EC50 30.2 ng/L
Test species: *Daphnia magna* (Waterflea)

Toxicity to algae

Benzyl Alcohol
IC50 > 100 mg/L Duration of test: 72 h

Propylene carbonate
Static test > 500 mg/L
Test species: *Desmodesmus subspicatus* (green algae)
Duration of test: 72 h

Imidacloprid
EC50 > 100 mg/L
Test species: *Pseudokirchneriella subcapitata* (green algae)
Duration of test: 72 h
EC50 > 10 mg/l
Test species: *Desmodesmus subspicatus* (green algae)
Duration of test: 72 h

Moxidectin
EC50 > 86.9 µg/L

Toxicity to bacteria

Benzyl alcohol
EC50 71.4 mg/L
Test species: *Photobacterium phosphoreum*
Duration of test: 0.5 h

Propylene carbonate
EC20 > 800 mg/L
Test species: activated sludge micro-organism
Duration of test: 0.5 h

Imidacloprid
EC50 > 10,000 mg/L
Test species: activated sludge micro-organism

Persistence and Degradability:

Partition coefficient (n-octanol/water):
Benzyl Alcohol
log Pow: 1.05

Propylene carbonate
log Pow: -0.48 at 25 °C
Imidacloprid
log Pow: 0.57 at 21 °C
OECD Test Guideline 107

SAFETY DATA SHEET

Section 13 - Disposal Considerations

After Intended Use: Dispose of used applicators by wrapping in paper and placing in garbage.

After spill or accident: Dispose of sealed containers at an approved local waste disposal site.

Section 14 - Transport Information

UN Number: 3082
UN Proper Shipping Name: Environmentally Hazardous Substance, Liquid, N.O.S, (Imidacloprid, Moxidectin).

Class & Subsidiary: 9

Risk Packaging Group: III
Hazchem Code: 3Z
Special Note: NOT CLASSIFIED AS DANGEROUS GOODS when transported by road or rail within Australia under Special Provision AU01 of the Australian Dangerous Goods Code, 7th Edition.
CLASSIFIED AS DANGEROUS GOODS when transported by sea or air.

Section 15 - Regulatory Information

Poisons Schedule: Schedule 5: 55320, 55321
Schedule 6: 55322, 55323

APVMA Registration: The products are registered by the APVMA.

Registration No.: 91036, 91662, 91665, 91668

Labelling: All necessary directions, precautions and warnings for normal use of the product are included on the product label.

Section 16 - Other Information

This SDS contains only safety-related information. For other data see product literature.

Acronyms:

ADG Code Australian Code for the Transport of Dangerous Goods by Road and Rail (7th edition)

GHS Globally Harmonized System of Classification and Labelling of Chemicals

HDPE High density polyethylene

LDPE Low density polyethylene

CAS number Chemical Abstracts Service Registry Number

OECD Organisation for Economic Co-operation and Development

STOT Specific Target Organ Toxicity

SUSDP Standard for the Uniform Scheduling of Drugs and Poisons

TWA Time Weighted Average – average airborne concentration of a particular substance when calculated over a normal eight-hour workingday, for a five-day working week.

UN Number United Nations Number

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THIS SDS SUMMARISES OUR BEST KNOWLEDGE OF THE HEALTH AND SAFETY HAZARD INFORMATION OF THE PRODUCT AND HOW TO SAFELY HANDLE AND USE THE PRODUCT IN THE WORKPLACE. EACH USER MUST REVIEW THIS SDS IN THE CONTEXT OF HOW THE PRODUCT WILL BE HANDLED AND USED IN THE WORKPLACE.

IF CLARIFICATION OR FURTHER INFORMATION IS NEEDED TO ENSURE THAT AN APPROPRIATE RISK ASSESSMENT CAN BE MADE, THE USER SHOULD CONTACT THIS COMPANY SO WE CAN ATTEMPT TO OBTAIN ADDITIONAL INFORMATION FROM OUR SUPPLIERS

OUR RESPONSIBILITY FOR PRODUCTS SOLD IS SUBJECT TO OUR STANDARD TERMS AND CONDITIONS, A COPY OF WHICH IS SENT TO OUR CUSTOMERS AND IS ALSO AVAILABLE ON REQUEST.

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Issued by: Headway Animal Health Pty Ltd

Phone: (61-2) 98960856

Poisons Information Centre: 13 1126 from anywhere in Australia, (0800 764 766 in New Zealand)