

SAFETY DATA SHEET



FRONTLINE® Spray

Version 3
Issue Date: 11 July 2014
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Section 1 - Identification of the Material and Supplier

Product name: **FRONTLINE® Spray**
APVMA Code: 46828
Recommended Use: For the treatment and prevention of flea infestations, control of flea allergy dermatitis, control of ticks (including paralysis ticks) and biting lice on dogs and cats.
Do not use on rabbits.
Supplier name: **Merial Australia Pty Ltd**
Address: **Talavera Corporate Centre Building D
12-24 Talavera Road
Macquarie Park NSW 2113 AUSTRALIA**
Telephone number (toll-free): 1800 808 691
All hours emergency phone number - Poisons Information Centre 131126 anywhere in Australia
Chemical nature: Fipronil is a phenylpyrazole derivative and is present here in Isopropanol solution.
This version issued: **July, 2014** and is valid for 5 years from this date.

Section 2 - Hazards Identification

Statement of Hazardous Nature

This product is classified as: Xn, Harmful. Xi, Irritating. N, Dangerous to the environment. F+, Highly Flammable. Hazardous according to the criteria of SWA.

Dangerous according to Australian Dangerous Goods (ADG) Code, IATA and IMDG/IMSBC criteria.

Risk Phrases: R11, R36, R52, R66, R67. Highly flammable. Irritating to eyes. Harmful to aquatic organisms. Repeated exposure may cause skin dryness or cracking. Vapours may cause drowsiness and dizziness.

Safety Phrases: S7, S16, S26, S51, S24/25. Keep container tightly closed. Keep away from sources of ignition - No smoking. In case of contact with eyes, rinse immediately with plenty of water and contact a doctor or Poisons Information Centre. Use only in well ventilated areas. Avoid contact with skin and eyes.

SUSMP Classification: S5

ADG Classification: Class 3: Flammable liquids.

UN Number: 1219, ISOPROPANOL



GHS Signal word: DANGER

HAZARD STATEMENT:

- H225: Highly flammable liquid and vapour.
- AUH066: Repeated exposure may cause skin dryness or cracking.
- H320: Causes eye irritation.
- H336: May cause drowsiness or dizziness.
- H402: Harmful to aquatic life.

PREVENTION

- P102: Keep out of reach of children.
- P210: Keep away from heat, sparks, open flames and hot surfaces. - No smoking.
- P233: Keep container tightly closed.
- P261: Avoid breathing fumes, mists, vapours or spray.
- P264: Wash contacted areas thoroughly after handling.
- P271: Use only outdoors or in a well ventilated area.
- P273: Avoid release to the environment.
- P281: Use personal protective equipment as required.

RESPONSE

- P312: Call a POISON CENTRE or doctor if you feel unwell.
- P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

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P303+P361+P353: IF ON SKIN (or hair): Remove immediately all contaminated clothing. Rinse skin with water.
P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313: If eye irritation persists: Get medical advice.
P370+P378: In case of fire, use carbon dioxide, dry chemical, foam, water fog. Alcohol resistant foam is the preferred firefighting medium but, if it is not available, fine water spray can be used.

STORAGE

P410: Protect from sunlight.
P402+P404: Store in a dry place. Store in a closed container.
P403+P235: Store in a well-ventilated place. Keep cool (below 30°C).

DISPOSAL

P501: Dispose of small quantities and empty containers by wrapping with paper and putting in garbage. For larger quantities, if recycling or reclaiming is not possible, use a commercial waste disposal service.

Emergency Overview

Physical Description & Colour: Amber coloured liquid.

Odour: Alcohol odour.

Major Health Hazards: In a toxicity study involving rats, the clinical signs of toxicity did not reach their peak until two days after treatment in some animals, and deaths did not occur until four days after treatment. Some signs of toxicity and body-weight loss were still evident when the observation period ended at day 7 after treatment.

In rabbits, skin contact Fipronil induced deaths and one or more clinical signs of toxicity including convulsions, sluggishness, salivation, spasms, tremors, hyperactivity, diarrhoea, emaciation, and perioral and perinasal red discoloration in all groups except that at the lowest dose (100 mg/kg).

Clinical signs of oral toxicity included tremors and convulsions of various types, effects on activity or gait, hunched posture, wetness in various body areas, and seizures.

For Fipronil:

LD₅₀ (Oral), Rat 92mg/kg

LD₅₀ (Oral), Mouse 91mg/kg

LD₅₀ (Dermal), Rat >2000mg/kg

LD₅₀ (Dermal), Rabbit 445mg/kg

LC₅₀ (Inhal, 4hr), Mouse 0.36-0.42mg/kg

eye irritant, repeated exposure may cause skin dryness or cracking, vapours may cause drowsiness and dizziness.

Section 3 - Composition/Information on Ingredients

| Ingredients | CAS No | Conc,% | TWA (mg/m ³) | STEL (mg/m ³) |
|---------------------------------|-------------|--------|--------------------------|---------------------------|
| Fipronil | 120068-37-3 | 2.5g/L | not set | not set |
| Other non hazardous ingredients | secret | <10 | not set | not set |
| Isopropanol | 67-63-0 | to 100 | 983 | 1230 |

This is a commercial product whose exact ratio of components may vary slightly. Minor quantities of other non hazardous ingredients are also possible.

The SWA TWA exposure value is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. The STEL (Short Term Exposure Limit) is an exposure value that may be equalled (but should not be exceeded) for no longer than 15 minutes and should not be repeated more than 4 times per day. There should be at least 60 minutes between successive exposures at the STEL. The term "peak "is used when the TWA limit, because of the rapid action of the substance, should never be exceeded, even briefly.

Section 4 - First Aid Measures

General Information:

You should call The Poisons Information Centre if you feel that you may have been poisoned, burned or irritated by this product. The number is 13 1126 from anywhere in Australia (0800 764 766 in New Zealand) and is available at all times. Have this SDS with you when you call.

Inhalation: First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

Skin Contact: Wash gently and thoroughly with water (use non-abrasive soap if necessary) for 5 minutes or until chemical is removed.

Eye Contact: Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for 20 minutes or until the product is removed, while holding the eyelid(s) open. Take care not to rinse contaminated water into the unaffected eye or onto the face. Obtain medical attention immediately. Take special care if exposed person is wearing contact lenses.

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Ingestion: If swallowed, do NOT induce vomiting. Wash mouth with water and contact a Poisons Information Centre, or call a doctor.

Section 5 - Fire Fighting Measures

Fire and Explosion Hazards: The major hazard in fires is usually inhalation of heated and toxic or oxygen deficient (or both), fire gases. There is a moderate risk of an explosion from this product if commercial quantities are involved in a fire. Firefighters should take care and appropriate precautions. Any explosion will likely spread the fire to surrounding materials. Water spray may be used to cool packages involved in a fire, reducing the chances of an explosion. Vapours from this product are heavier than air and may accumulate in sumps, pits and other low-lying spaces, forming potentially explosive mixtures. They may also flash back considerable distances.

Fire decomposition products from this product may be toxic if inhaled. Take appropriate protective measures.

Extinguishing Media: In case of fire, use carbon dioxide, dry chemical, foam, water fog. Alcohol resistant foam is the preferred firefighting medium but, if it is not available, fine water spray can be used. Try to contain spills, minimise spillage entering drains or water courses.

Fire Fighting: If a significant quantity of this product is involved in a fire, call the fire brigade. There is a danger of a violent reaction or explosion if significant quantities of this product are involved in a fire. Recommended personal protective equipment is full fire kit and breathing apparatus.

Flash point: 18°C

Upper Flammability Limit: 12%

Lower Flammability Limit: 2%

Autoignition temperature: No data.

Flammability Class: Flammable Category 2 (GHS); Highly Flammable (AS1940).

Section 6 - Accidental Release Measures

Accidental release: This product is sold in small packages, and the accidental release from one of these is not usually a cause for concern. For minor spills, clean up, rinsing to sewer and put empty container in garbage. Although no special protective clothing is normally necessary because of occasional minor contact with this product, it is good practice to wear impermeable gloves when handling chemical products. In the event of a major spill, prevent spillage from entering drains or water courses and call emergency services.

Section 7 - Handling and Storage

Handling: Keep exposure to this product to a minimum, and minimise the quantities kept in work areas. Check Section 8 of this SDS for details of personal protective measures, and make sure that those measures are followed. The measures detailed below under "Storage" should be followed during handling in order to minimise risks to persons using the product in the workplace. Also, avoid contact or contamination of product with incompatible materials listed in Section 10.

Storage: This product is a Scheduled Poison. Observe all relevant regulations regarding sale, transport and storage of this schedule of poison. Store below 30°C in a well ventilated area, and make sure that surrounding electrical devices and switches are suitable. Check containers periodically for leaks. Containers should be kept closed in order to minimise contamination and possible evaporation. Make sure that the product does not come into contact with substances listed under "Incompatibilities" in Section 10. If you keep more than 2500kg or L of Dangerous Goods of Packaging Group II, you may be required to license the premises or notify your Dangerous Goods authority. If you have any doubts, we suggest you contact your Dangerous Goods authority in order to clarify your obligations. Check packaging - there may be further storage instructions on the label.

Section 8 - Exposure Controls and Personal Protection

The following Australian Standards will provide general advice regarding safety clothing and equipment:

Respiratory equipment: **AS/NZS 1715**, Protective Gloves: **AS 2161**, Occupational Protective Clothing: AS/NZS 4501 set 2008, Industrial Eye Protection: **AS1336** and **AS/NZS 1337**, Occupational Protective Footwear: **AS/NZS2210**.

SWA Exposure Limits

TWA (mg/m³)

STEL (mg/m³)

Isopropanol

983

1230

The ADI for Fipronil is set at 0.0002mg/kg/day. The corresponding NOEL is set at 0.02mg/kg/day. ADI means Acceptable Daily Intake; NOEL means No-observable-effect-level. Data from Australian ADI List, June 2013.

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No special equipment is usually needed when occasionally handling small quantities. The following instructions are for bulk handling or where regular exposure in an occupational setting occurs without proper containment systems.

Ventilation: This product should only be used in a well ventilated area. If natural ventilation is inadequate, use of a fan is suggested.

Eye Protection: Protective glasses or goggles should be worn when this product is being used. Failure to protect your eyes may cause them harm. Emergency eye wash facilities are also recommended in an area close to where this product is being used.

Skin Protection: You should avoid contact even with mild skin irritants. Therefore you should wear suitable impervious elbow-length gloves and facial protection when handling this product. See below for suitable material types.

Protective Material Types: We suggest that protective clothing be made from the following materials: Viton, nitrile, butyl rubber, PE/EVAL, Responder.

Respirator: Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian Standard mentioned above.

Eyebaths or eyewash stations should, if practical, be provided near to where this product is being handled commercially.

Section 9 - Physical and Chemical Properties:

| | |
|---|--|
| Physical Description & colour: | Amber coloured liquid. |
| Odour: | Alcohol odour. |
| Boiling Point: | 82°C at 100kPa |
| Freezing/Melting Point: | No specific data. Liquid at normal temperatures. |
| Volatiles: | Approx 70% |
| Vapour Pressure: | 4.3 kPa at 20°C |
| Vapour Density: | No data. |
| Specific Gravity: | 0.859 |
| Water Solubility: | Completely soluble. |
| pH: | No data. |
| Volatility: | No data. |
| Odour Threshold: | No data. |
| Evaporation Rate: | No data. |
| Coeff Oil/water Distribution: | No data |
| Autoignition temp: | No data. |

Section 10 - Stability and Reactivity

Reactivity: This product is unlikely to react or decompose under normal storage conditions. However, if you have any doubts, contact the supplier for advice on shelf life properties.

Conditions to Avoid: Keep away from sources of sparks or ignition. Handle and open containers carefully. Protect this product from light. Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight.

Incompatibilities: strong oxidising agents.

Fire Decomposition: Combustion forms carbon dioxide, and if incomplete, carbon monoxide and possibly smoke. Water is also formed. May form hydrogen fluoride gas and other compounds of fluorine. Carbon monoxide poisoning produces headache, weakness, nausea, dizziness, confusion, dimness of vision, disturbance of judgment, and unconsciousness followed by coma and death.

Polymerisation: This product will not undergo polymerisation reactions.

Section 11 - Toxicological Information

Potential Health Effects

Inhalation:

Short Term Exposure: High vapour pressures may cause drowsiness and dizziness. In addition product may be mildly irritating, although unlikely to cause anything more than mild transient discomfort.

Long Term Exposure: Vapours may cause drowsiness and dizziness.

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**Skin Contact:**

Short Term Exposure: Available data indicates that this product is not harmful. It should present no hazards in normal use. However product may be irritating, but is unlikely to cause anything more than mild transient discomfort.

Long Term Exposure: Repeated exposure may cause skin dryness or cracking.

Eye Contact:

Short Term Exposure: This product is an eye irritant. Symptoms may include stinging and reddening of eyes and watering which may become copious. Other symptoms may also become evident. If exposure is brief, symptoms should disappear once exposure has ceased. However, lengthy exposure or delayed treatment may cause permanent damage.

Long Term Exposure: No data for health effects associated with long term eye exposure.

Ingestion:

Short Term Exposure: Significant oral exposure is considered to be unlikely. However, this product is an oral irritant. Symptoms may include burning sensation and reddening of skin in mouth and throat. Other symptoms may also become evident, but all should disappear once exposure has ceased.

Long Term Exposure: No data for health effects associated with long term ingestion.

Carcinogen Status:

SWA: No significant ingredient is classified as carcinogenic by SWA.

NTP: No significant ingredient is classified as carcinogenic by NTP.

IARC: Isopropanol is Class 3 - unclassifiable as to carcinogenicity to humans.

See the IARC website for further details. A web address has not been provided as addresses frequently change.

Toxicity: When Fipronil was administered as a single dose to mice or rats orally or by inhalation, deaths and signs of toxicity occurred at all or most doses in animals of each sex. Most or all of the deaths occurred within several days of treatment.

There is no data to hand indicating any particular target organs.

Classification of Hazardous Ingredients

| Ingredient | Risk Phrases |
|-------------|--------------------|
| Isopropanol | Conc>=20%: Xi; R36 |

Section 12 - Ecological Information

This product is very toxic to aquatic organisms. This product is biodegradable. It will not accumulate in the soil or water or cause long term problems.

For Fipronil:

Fish: LC₅₀ bluegill sunfish (*Lepomis macrochirus*): 0.085mg/L

LC₅₀ rainbow trout: 0.248mg/L

LC₅₀ carp: 0.430mg/L

LC₅₀ Daphnia: 0.19mg/L

In laboratory studies, Fipronil has a half-life of 122-128 days in oxygenated sandy loam. In field studies, dissipation half-life on soil surfaces ranged from 0.7 to 1.7 months. Half-life of Fipronil applied by soil incorporation ranged from 3 to 7.3 months. Residues remain mainly in the upper 30cm of soil. Fipronil has low soil mobility - it binds to the soil and has little potential for groundwater contamination.

Fipronil degrades slowly in water and sediment that lack oxygen, with a half-life ranging from 116 to 130 days.

Fipronil is stable to breakdown by water at mildly acidic to neutral pH values.

When exposed to light, Fipronil has a half-life of 3.6 hours in water, and 34 days in loamy soil.

Toxic to bees. Toxic to aquatic organisms.

Fish: LC₅₀ rainbow trout (*Oncorhynchus mykiss*): 0.25mg/L

Section 13 - Disposal Considerations

Disposal: Dispose of small quantities and empty containers by wrapping with paper and putting in garbage. For larger quantities, if recycling or reclaiming is not possible, use a commercial waste disposal service.

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Section 14 - Transport Information

ADG Code: 1219, ISOPROPANOL

Hazchem Code: •2YE

Special Provisions: None allocated

Limited quantities: ADG 7 specifies a Limited Quantity value of 1 L for this class of product.

Dangerous Goods Class: Class 3: Flammable liquids.

Packaging Group: II

Packaging Method: P001, IBC02

Class 3 Flammable Liquids shall not be loaded in the same vehicle or packed in the same freight container with Classes 1 (Explosives), 2.1 (Flammable Gases where flammable liquids and flammable gases are both in bulk), 2.3 (Toxic Gases), 4.2 (Spontaneously Combustible Substances), 5.1 (Oxidising Agents), 5.2 (Organic Peroxides), 6 (Toxic Substances, except Flammable Liquid is nitromethane), and 7 (Radioactive Substances). They may however be loaded in the same vehicle or packed in the same freight container with Classes 2.1 (Flammable Gases except where the Flammable Liquids and Flammable Gases are in bulk), 2.2 (Non-Flammable Non-Toxic Gases), 4.1 (Flammable Solids), 4.3 (Dangerous When Wet Substances), 6 (Toxic Substances, where Flammable Liquid is nitromethane), 8 (Corrosive Substances), 9 (Miscellaneous Dangerous Goods), Foodstuffs or foodstuff empties.

Section 15 - Regulatory Information

AICS: All of the significant ingredients in this formulation are compliant with NICNAS regulations.

The following ingredient: Fipronil, is mentioned in the SUSMP.

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 (7 th edition) |
| AICS | Australian Inventory of Chemical Substances |
| SWA | Safe Work Australia, formerly ASCC and NOHSC |
| CAS number | Chemical Abstracts Service Registry Number |
| Hazchem Code | Emergency action code of numbers and letters that provide information to emergency services especially firefighters |
| IARC | International Agency for Research on Cancer |
| IATA | International Air Transport Association the trade association for the world's airlines. |
| IMSBC | Formerly IMDG, the code for carriage of Dangerous Goods by sea freight. |
| NOS | Not otherwise specified |
| NTP | National Toxicology Program (USA) |
| SUSMP | Standard for the Uniform Scheduling of Medicines & Poisons |
| UN Number | United Nations Number |

SUPPLIER STATEMENT: *The product should be stored, handled and used in accordance with good industrial hygiene practices and in conformity with legal regulations. The information in this MSDS is based on the level of knowledge at the time of preparation and relates to the product in the state in which it is supplied. The information describes the product from the safety point of view and is not intended to guarantee any particular properties and shall not establish a legally valid contractual relationship*

Please read SDS and all labels carefully before using product.

This SDS is prepared in accord with the SWA document "Preparation of Safety Data Sheets for Hazardous Chemicals - Code of Practice" (December 2011)
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