

VIRBAC (AUSTRALIA) PTY. LTD.

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Section 1 - Identification of The Material and Supplier

Company:	Virbac (Australia) Pty. Ltd	ABN 77 003 268 871
Address	361 Horsley Rd, Milperra, NSW 2214, Australia Locked Bag 6000, Milperra Business Centre, NSW 1891, Australia	
Telephone:	(02) 9772 9772 or 1800 242 100	
Fax:	(02) 9772 9773	
Emergency phone	As above during business hours; answering machine after hours	

Chemical nature:	Amitraz is an amidine derivative.
Trade Name:	Taktic® EC Acaricidal Spray for Cattle and Pigs
APVMA Code:	68071 (400mL) and 68080 (2L)
Recommended Use:	For the control of ticks (including organophosphate and synthetic pyrethroid resistant strains) on cattle in NSW and QLD, cattle tick on sheep, goats, deer and certain circus animals in NSW only and mange on pigs.
Creation Date:	August, 2007
This version issued:	April, 2013 and is valid for 5 years from this date.

Section 2 - Hazards Identification

Statement of Hazardous Nature:

This product is classified as: Xn, Harmful. Hazardous according to the criteria of SWA.

Not a Dangerous Good according to the Australian Dangerous Goods (ADG) Code. However, this is a C1 Combustible Liquid so must be stored and handled as specified in AS 1940 "The storage and handling of flammable and combustible liquids."

Risk Phrases: R22, R65. Harmful if swallowed. Harmful: May cause lung damage if swallowed.

Safety Phrases: S20, S23, S46, S24/25. When using, do not eat or drink. Do not breathe vapours or spray mists. If swallowed, contact a doctor or Poisons Information Centre immediately and show this container or label. Avoid contact with skin and eyes.

SUSMP Classification: S6

ADG Classification: None allocated. Not a Dangerous Good under the ADG Code.

UN Number: None allocated



GHS Signal word: **WARNING.**

HAZARD STATEMENT:

H302: Harmful if swallowed.

H304: May be fatal if swallowed and enters airways.

PREVENTION

P264: Wash contacted areas thoroughly after handling.

P270: Do not eat, drink or smoke when using this product.

RESPONSE

P353: Rinse skin or shower with water.

P301+P310: IF SWALLOWED: Immediately call a POISON CENTRE or doctor.

P301+P312: IF SWALLOWED: Call a POISON CENTRE or doctor if you feel unwell.

P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P332+P313: If skin irritation occurs: Get medical advice.

P337+P313: If eye irritation persists: Get medical advice.

P391: Collect spillage.

P370+P378: In case of fire: Preferred extinguishing media are carbon dioxide, dry chemical, foam, water fog.

STORAGE

P405: Store locked up.

P402+P404: Store in a dry place. Store in a closed container.

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DISPOSAL

P501: Dispose of contents and containers to landfill.

Emergency Overview

Physical Description & Colour: Pale yellow liquid.

Odour: Aromatic odour.

Major Health Hazards: Signs of acute Amitraz poisoning in male and female rats treated with 440 mg/kg and 365 mg/kg respectively, include coolness to touch, reduced spontaneous activity, episodes of increased induced activity such as aggression in response to handling, and signs of general debilitation. harmful if swallowed, if aspirated, may cause lung damage.

Potential Health Effects

Inhalation:

Short Term Exposure: Available data indicates that this product is not harmful. However product may be mildly irritating, although unlikely to cause anything more than mild transient discomfort.

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

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: No data for health effects associated with long term skin exposure.

Eye Contact:

Short Term Exposure: This product may be irritating to eyes, but is unlikely to cause anything more than mild transient discomfort.

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. Harmful if swallowed; see symptoms above. This product may directly enter the lungs if swallowed, or if subsequently vomited. Once in the lungs, it is very difficult to remove and can cause severe injury or death. 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: No significant ingredient is classified as carcinogenic by IARC.

Section 3 - Composition/Information on Ingredients

Ingredients	CAS No	Conc	TWA (mg/m ³)	STEL (mg/m ³)
Amitraz	33089-61-1	125g/L	not set	not set
Liquid hydrocarbon		670g/L	not set	not set
Other non hazardous ingredients	secret	to 100%	not set	not set

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 MSDS with you when you call.

Inhalation: No first aid measures normally required. However, if inhalation has occurred, and irritation has developed, remove to fresh air and observe until recovered. If irritation becomes painful or persists more than about 30 minutes, seek medical advice.

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

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Eye Contact: No effects expected. If irritation does occur, flush contaminated eye(s) with lukewarm, gently flowing water for 5 minutes or until the product is removed. Obtain medical advice if irritation becomes painful or lasts more than a few minutes. Take special care if exposed person is wearing contact lenses.

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: This product is classified as a C1 combustible product. There is a slight risk of an explosion from this product if commercial quantities are involved in a fire. Violent steam generation or eruption may occur upon application of direct water stream on hot liquids.

Fire decomposition products from this product are likely to be toxic if inhaled. Take appropriate protective measures.

Extinguishing Media: Preferred extinguishing media are carbon dioxide, dry chemical, foam, water fog.

Fire Fighting: If a significant quantity of this product is involved in a fire, call the fire brigade.

Flash point: 97°C

Upper Flammability Limit: No data.

Lower Flammability Limit: No data.

Autoignition temperature: No data.

Flammability Class: C1

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 MSDS 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: Note that this product is combustible and therefore, for Storage, meets the definition of Dangerous Goods in some states. If you store large quantities (tonnes) of such products, we suggest that you consult your state's Dangerous Goods authority in order to clarify your obligations regarding their storage.

Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight. Make sure that the product does not come into contact with substances listed under "Incompatibilities" in Section 10. Some liquid preparations settle or separate on standing and may require stirring before use. 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)**

Exposure limits have not been established by SWA for any of the significant ingredients in this product.

The ADI for Amitraz is set at 0.002mg/kg/day. The corresponding NOEL is set at 0.25mg/kg/day. ADI means Acceptable Daily Intake and NOEL means No-observable-effect-level. Values taken from Australian ADI List, Sept 2011.

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: Eye protection such as protective glasses or goggles is recommended when 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

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Protective Material Types: We suggest that protective clothing be made from the following materials: rubber, PVC.

Respirator: Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian Standard mentioned above. Otherwise, not normally necessary.

Section 9 - Physical and Chemical Properties:

Physical Description & Colour:	Pale yellow liquid.
Odour:	Aromatic odour.
Boiling Point:	244-285°C at 100kPa
Freezing/Melting Point:	No specific data. Liquid at normal temperatures.
Volatiles:	No specific data. Expected to be low at 100°C.
Vapour Pressure:	Negligible at normal ambient temperatures.
Vapour Density:	No data.
Specific Gravity:	1.01
Water Solubility:	Emulsifiable.
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: Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight.

Incompatibilities: strong acids, strong bases, strong oxidising agents.

Fire Decomposition: Carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke. Nitrogen and its compounds, and under some circumstances, oxides of nitrogen. Occasionally hydrogen cyanide gas in reducing atmospheres. Water. 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

Toxicity: Acute Toxicity: Amitraz is harmful to mammals if ingested orally. The oral LD₅₀ is 523-800 mg/kg for Amitraz in rats. The oral LD₅₀ is greater than 1,600 mg/kg for mice. Dermal exposure results in an LD₅₀ of greater than 1,600 mg/kg for rats and greater than 200 mg/kg for rabbits. The inhalation LC₅₀ (6 hours) of Amitraz for rats is 65 mg/l of air. Amitraz is not a skin irritant and does not sensitize skin. Signs of acute Amitraz poisoning in male and female rats treated with 440 mg/kg and 365 mg/kg respectively, include coolness to touch, reduced spontaneous activity, episodes of increased induced activity such as aggression in response to handling, and signs of general debilitation. Amitraz also may produce a slowly reversible emaciation in survivors.

Chronic Toxicity: In two-year feeding trials, rats who received 50 mg/kg/day in their diet and dogs who received 0.25 mg/kg/day of Amitraz did not show any ill-effects.

Reproductive Effects: Doses of 200 mg/kg/day of Amitraz for ten weeks decreased fertility in male and female rats. Female mice treated orally for 5 days with 50 mg/kg/day of Amitraz and then mated showed a slight increase in loss of foetuses and a decrease in the number of living offspring. When male mice were given 50 mg/kg/day of Amitraz orally for 5 days and then mated, the resulting embryos were significantly less likely to grow in the mother's uterus. Female mice who received 400 mg/kg/day of Amitraz in their diet for up to 33 weeks, showed a significant increase in the time they were sexually receptive. The highest dose of Amitraz which has no observable effect on the death of unborn rats (foetotoxic NOEL) is 3 mg/kg/day. The highest dose of Amitraz that does not cause an observable effect in the death of rat embryos (Embryotoxic NOEL) is 5 mg/kg/day. Rats who received 12 mg/kg/day of Amitraz from day one of pregnancy until the young were weaned at 21 days old had a reduced number of young born and alive at day four. Rabbits who received 25 mg/kg/day of Amitraz from days 6 to 18 of pregnancy had fewer and smaller litters. Although there have been reproductive effects observed in laboratory animals at some dose levels, likely human exposures are very much less than those which produced effects. These effects are unlikely in humans under normal circumstances.

Teratogenic Effects: In one study, rats treated with 12 mg/kg/day of Amitraz from days 8 to 20 of pregnancy, the offspring were heavier but had less bone development than the offspring of untreated rats. However, an EPA study

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12 mg/kg/day. The teratogenic NOEL of rabbits is 25 mg/kg/day. These studies indicate that high doses of Amitraz exposure during pregnancy produced adverse effects in laboratory animals. Likely human exposures are very much less than those which produced effects, and these effects are unlikely in humans under normal circumstances.

Mutagenic Effects: A variety of tests indicate that Amitraz is not mutagenic and does not cause damage to DNA.

Carcinogenic Effects: Long term feeding studies show that Amitraz is not carcinogenic in rats. However, it can cause tumors in female mice. Amitraz causes an increase in tumors of the lungs and lymph nodes in female mice, but not males, at 57 mg/kg/day over 20 months. A two-year study of female mice also showed an increase in tumors of the liver (hepatocellular tumors) at 57 mg/kg/day of Amitraz). Because Amitraz causes cancer in female mice, but not male mice or male or female rats, it is unclassifiable as to human carcinogenicity.

Organ Toxicity: At high doses, Amitraz can reduce the function of the hypothalamus, which helps regulate the metabolism by controlling hormone release in the body. A daily dose of 200 mg of Amitraz per kilogram of body weight for ten weeks causes decreased growth and food consumption.

Fate in Humans and Animals: Available data suggest that Amitraz, following absorption into the blood, is not readily absorbed into tissues, and is mostly excreted unchanged via the urine).

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Taktic® EC Acaricidal Spray for Cattle and Pigs**Section 12 - Ecological Information**

This product is biodegradable. It will not accumulate in the soil or water or cause long term problems.

Effects on Birds: Amitraz is not toxic to birds. The dietary LC₅₀ (8 day) is 7,000 mg/kg for mallard ducks and 1,800 mg/kg for Japanese quail. The oral LD₅₀ for bobwhite quail is 788 mg/kg. Amitraz may affect reproduction in birds. The avian reproduction NOEL is less than 40 ppm.

Effects on Aquatic Organisms: Amitraz is moderately toxic to fish. The LC₅₀ (96-hour exposure) is 1.3 mg/l for bluegill sunfish and 3.2-4.2 mg/l for harlequin fish. For a 48-hour exposure of rainbow trout, a cold water species, the LC₅₀ is 2.7-4.0 mg/l. Daphnia, a fresh water invertebrate, exhibited toxic effects at 35 ppb of Amitraz in water.

Effects on Other Animals (Nontarget species): Amitraz is relatively non-toxic to bees. The LD₅₀ is 12 µg per bee by ingestion and 3.6 mg/l by direct spraying.

ENVIRONMENTAL FATE

Breakdown of Chemical in Soil: Amitraz is broken down rapidly in soil containing oxygen. The half-life in soil, the amount of time needed for the chemical to degrade to half its original concentration, is less than one day. Degradation occurs more rapidly in acidic soils than in alkaline or neutral soils.

Breakdown of Chemical in Vegetation: Reports indicate that Amitraz may cause crop injury to young peppers and pears during high temperature conditions.

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.

Section 14 - Transport Information

ADG Code: This product is not classified as a Dangerous Good. No special transport conditions are necessary unless required by other regulations.

Section 15 - Regulatory Information

AICS: All of the significant ingredients in this formulation are compliant with NICNAS regulations. The following ingredients: Amitraz, Liquid hydrocarbon, are mentioned in the SUSMP.

Section 16 - Other Information

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

Contact point: Technical Manager, QA Manager or R&D Director
Telephone (02) 9772 9772 or 1800 242 100
Fax (02) 9772 9773

Acronyms:

ADG Code	Australian Code for the Transport of Dangerous Goods by Road and Rail, 7th 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
NOS	Not otherwise specified
NTP	National Toxicology Program (USA)
R-Phrase	Risk Phrase
SUSMP	Standard for the Uniform Scheduling of Medicines & Poisons
UN Number	United Nations Number

THIS MSDS 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 MSDS 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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This MSDS 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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