

Section 1 - Identification of The Material and Supplier

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Chemical nature: Amitrole is a triazole derivative. Ammonium thiocyanate is an inorganic salt.
Trade Name: Sabakem Amitrole 47T Herbicide
APVMA Code: 69890
Product Use: Agricultural herbicide for use as described on the product label.
Creation Date: May, 2014
This version issued: March, 2015 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.

Risk Phrases: R32, R63, R20/21/22, R48/22. Contact with acids liberates very toxic hydrogen cyanide gas. Possible risk of harm to the unborn child. Harmful through inhalation, in contact with skin, and if swallowed. Harmful: danger of serious damage to health by prolonged exposure if swallowed.

Safety Phrases: S2, S13, S20, S38, S46, S24/25, S36/37. Keep out of reach of children. Keep away from food, drink and animal feeding stuffs. When using, do not eat or drink. In case of insufficient ventilation, wear suitable respiratory equipment. If swallowed, contact a doctor or Poisons Information Centre immediately and show this SDS or label. Avoid contact with skin and eyes. Wear suitable protective clothing and gloves.

SUSMP Classification: S5

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

UN Number: None allocated

**GHS Signal word: WARNING****HAZARD STATEMENT:**

- AUH032: Contact with acids liberates very toxic hydrogen cyanide gas.
- H302: Harmful if swallowed.
- H312: Harmful in contact with skin.
- H332: Harmful if inhaled.
- H361: Suspected of damaging fertility or the unborn child.
- H373: May cause damage to organs through prolonged or repeated exposure.

PREVENTION

- P201: Obtain special instructions before use.
- P202: Do not handle until all safety precautions have been read and understood.
- P261: Avoid breathing fumes, mists, vapours or spray.
- P262: Do not get in eyes, on skin, or on clothing.
- P264: Wash contacted areas thoroughly after handling.
- P270: Do not eat, drink or smoke when using this product.
- P271: Use only outdoors or in a well ventilated area.
- P280: Wear protective gloves, protective clothing and eye or face protection.

RESPONSE

- P363: Wash contaminated clothing before reuse.
- 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.
- P302+P352: IF ON SKIN: Wash with plenty of soap and water.
- P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- P308+P313: If exposed or concerned: Get medical advice.

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P370+P378: Not combustible. Use extinguishing media suited to burning materials.

STORAGE

P403+P233: Store in a well-ventilated place. Keep container tightly closed.

P410+P403: Protect from sunlight. Store in a well-ventilated place.

DISPOSAL

P501: Dispose of contents and containers as specified on the registered label.

Emergency Overview

Physical Description & Colour: Brown liquid.

Odour: No data re odour.

Major Health Hazards: Amitrole has a very low acute toxicity to humans and animals. Associated symptoms in humans include skin rash, vomiting, diarrhoea, and nose bleeds. Poisoning by Amitrole is characterized by increased intestinal peristalsis (this may lead to diarrhoea), fluid in the lungs, and haemorrhages of various organs. This product may cause serious damage to health by prolonged exposure, harmful by inhalation, in contact with skin, and if swallowed, possible risk of harm to the unborn child.

Potential Health Effects**Inhalation:**

Short Term Exposure: Available data shows that this product is harmful, but symptoms are not available. In addition product may be mildly irritating, although unlikely to cause anything more than mild transient discomfort.

Long Term Exposure: This product is carcinogenic by inhalation exposure.

Skin Contact:

Short Term Exposure: Available data shows that this product is harmful, but symptoms are not available. In addition 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. Available data shows that this product is harmful, but symptoms are not available. However, this product may be irritating to mucous membranes but is unlikely to cause anything more than transient discomfort.

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: Amitrole is classified by NTP as reasonably anticipated to be carcinogenic to humans.

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

IARC: Amitrole 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.

Section 3 - Composition/Information on Ingredients

Ingredients	CAS No	Conc,%	TWA (mg/m ³)	STEL (mg/m ³)
Amitrole	61-82-5	250g/L	0.2	not set
Ammonium thiocyanate	1762-95-4	220g/L	not set	not set
Water	7732-18-5	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.

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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: If symptoms of poisoning become evident, contact a Poisons Information Centre, or call a doctor at once. Remove source of contamination or move victim to fresh air. If breathing is difficult, oxygen may be beneficial if administered by trained personnel, preferably on a doctor's advice. DO NOT allow victim to move about unnecessarily. Symptoms of pulmonary oedema can be delayed up to 48 hours after exposure.

Skin Contact: Wash gently and thoroughly with warm water (use non-abrasive soap if necessary) for 10-20 minutes or until product is removed. Under running water, remove contaminated clothing, shoes and leather goods (e.g. watchbands and belts) and completely decontaminate them before reuse or discard.

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: The major hazard in fires is usually inhalation of heated and toxic or oxygen deficient (or both), fire gases. There is no risk of an explosion from this product under normal circumstances if it is involved in a fire.

This product is likely to decompose only after heating to dryness, followed by further strong heating.

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

Extinguishing Media: Not combustible. Use extinguishing media suited to burning materials.

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

Flash point: Does not burn.

Upper Flammability Limit: Does not burn.

Lower Flammability Limit: Does not burn.

Autoignition temperature: Not applicable - does not burn.

Flammability Class: Does not burn.

Section 6 - Accidental Release Measures

Accidental release: In the event of a major spill, prevent spillage from entering drains or water courses. Wear full protective clothing including eye/face protection. All skin areas should be covered. See below under Personal Protection regarding Australian Standards relating to personal protective equipment. Suitable materials for protective clothing include rubber, PVC. Eye/face protective equipment should comprise as a minimum, protective goggles. If there is a significant chance that vapours or mists are likely to build up in the cleanup area, we recommend that you use a respirator. Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian Standard mentioned below (section 8). Otherwise, not normally necessary.

Stop leak if safe to do so, and contain spill. Absorb onto sand, vermiculite or other suitable absorbent material. If spill is too large or if absorbent material is not available, try to create a dike to stop material spreading or going into drains or waterways. Sweep up and shovel or collect recoverable product into labelled containers for recycling or salvage, and dispose of promptly. Recycle containers wherever possible after careful cleaning. Refer to product label for specific instructions. After spills, wash area preventing runoff from entering drains. If a significant quantity of material enters drains, advise emergency services. Full details regarding disposal of used containers, spillage and unused material may be found on the label. If there is any conflict between this SDS and the label, instructions on the label prevail. Ensure legality of disposal by consulting regulations prior to disposal. Thoroughly launder protective clothing before storage or re-use. Advise laundry of nature of contamination when sending contaminated clothing to laundry.

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.

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Storage: This product is a Scheduled Poison. Observe all relevant regulations regarding sale, transport and storage of this schedule of poison. Protect this product from light. 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/m ³)	STEL (mg/m ³)
Amitrole	0.2	not set

The ADI for Amitrole is set at 0.0003mg/kg/day. The corresponding NOEL is set at 0.025mg/kg/day. ADI means Acceptable Daily Intake; NOEL means No-observable-effect-level. Data from Australian ADI List, June 2013.

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: Prevent skin contact by wearing impervious gloves, clothes and, preferably, apron. Make sure that all skin areas are covered. See below for suitable material types.

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.

Safety deluge showers should, if practical, be provided near to where this product is being handled commercially.

Section 9 - Physical and Chemical Properties:

Physical Description & colour:	Brown liquid.
Odour:	No data re odour.
Boiling Point:	>100°C at 100kPa
Freezing/Melting Point:	Below 0°C.
Volatiles:	Water component.
Vapour Pressure:	2.37 kPa at 20°C (water vapour pressure).
Vapour Density:	As for water.
Specific Gravity:	1.12
Water Solubility:	Completely soluble.
pH:	6.6-6.9 (as supplied)
Volatility:	No data.
Odour Threshold:	No data.
Evaporation Rate:	As for water.
Coeff Oil/water Distribution:	No data
Autoignition temp:	Not applicable - does not burn.

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: Protect this product from light. Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight.

Incompatibilities: acids, strong oxidising agents.

Fire Decomposition: This product is likely to decompose only after heating to dryness, followed by further strong heating. Combustion forms carbon dioxide, and if incomplete, carbon monoxide and possibly smoke. Water is also formed. May form nitrogen and its compounds, and under some circumstances, oxides of nitrogen. Occasionally hydrogen cyanide gas in reducing atmospheres. May form oxides of sulfur (sulfur dioxide is a respiratory hazard) and other sulfur compounds. Most will have a foul odour. Carbon monoxide poisoning produces headache, weakness,

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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: An information profile for Amitrole is available at <http://extoxnet.orst.edu/pips/ghindex.html>

Acute toxicity: Amitrole has a very low acute toxicity to humans and animals. Associated symptoms in humans include skin rash, vomiting, diarrhoea, and nose bleeds. Poisoning by Amitrole is characterized by increased intestinal peristalsis (this may lead to diarrhoea), fluid in the lungs, and haemorrhages of various organs. No toxic effects were observed in a woman who ingested 20 mg/kg, but a single dose of 1200 mg/kg reduced iodine uptake by the thyroid in healthy persons. Amitrole is a mild skin and eye irritant. The oral and dermal LD₅₀ values for Amitrole in rats are greater than 5000 mg/kg. Studies have reported oral LD₅₀ values as high as 15,000 mg/kg in mice and 24,600 mg/kg in rats. In one study, the largest doses tested, 4080 mg/kg orally and 2500 mg/kg dermally, produced no toxic effects on rats. The dermal LD₅₀ in rabbits is greater than 200 mg/kg.

Chronic toxicity: Feeding of Amitrole to rats at dietary doses of 3 or 6 kg/mg/day for 2 weeks caused enlargement of the thyroid and reduced uptake of iodine. A dietary dose of 50 mg/kg/day produced significant enlargement of the thyroid after 3 days of feeding. Several studies have shown that Amitrole inhibits the activity of various liver enzymes. Long-term exposure to Amitrole can cause reversible goitres.

Reproductive effects: It is unlikely that reproductive effects will occur in humans in normal circumstances.

Teratogenic effects: Birth defects have occurred in the pups of pregnant rabbits, rats, and mice exposed to Amitrole, but only at doses high enough to also produce signs of toxicity in the mothers. Teratogenic effects in humans are unlikely in normal circumstances.

Mutagenic effects: One laboratory assay has shown Amitrole to be weak mutagen. All other assays have shown no mutagenic effects. These data suggest that Amitrole is weakly or nonmutagenic.

Carcinogenic effects: Amitrole has induced thyroid and liver tumours in rats and mice after lifetime high dose exposures.

Organ toxicity: Animal studies have shown that Amitrole's main effects are on the thyroid and liver.

Fate in humans and animals: Amitrole is rapidly and completely absorbed into the body through the gastrointestinal tract when eaten. It is excreted through the urine. The highest concentrations in all tissues generally occur within 1 hour after exposure.

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

Amitrole is a SWA Class 3 Reproductive risk, possible risk of harm to the unborn child.

Classification of Hazardous Ingredients

Ingredient	Risk Phrases
Amitrole	Conc>=10%: Xn; R48/22; R63
Amitrole: LD ₅₀ Oral, Rat 24600mg/kg	
Ammonium Thiocyanate: LD ₅₀ Oral, Mouse = 300mg/kg	

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: Amitrole is practically nontoxic to upland game birds. The LD₅₀ for Amitrole in mallard ducks is 2000 mg/kg.

Effects on aquatic organisms: Amitrole is slightly toxic to various species of freshwater fish and freshwater invertebrates.

Effects on other organisms: Amitrole inhibits the growth of bacteria. It is nontoxic to bees.

Environmental Fate:

Breakdown in soil and groundwater: Amitrole has low soil persistence. Its half-life is 14 days. Microbial breakdown of Amitrole takes 2 to 3 weeks in warm, moist soil. Some chemical degradation may also occur in soils. Loss of Amitrole from soils by volatilization or photodegradation is minor.

Breakdown in water: In aquatic environments, Amitrole does not break down by hydrolysis or photolysis, volatilize, nor bioaccumulate in aquatic organisms. The biodegradation half-life for Amitrole in water is about 40 days. Degradation of Amitrole in open waters may occur through oxidation by other chemicals.

Breakdown in vegetation: Amitrole is readily absorbed and rapidly translocated in the roots and leaves of higher plants. But, plants are able to metabolize Amitrole in 1 to 4 weeks. Amitrole residues were not detected in crops planted into soil 1 to 50 days after treatment with Amitrole.

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Section 13 - Disposal Considerations

Disposal: Special help is available for the disposal of Agricultural Chemicals. The product label will give general advice regarding disposal of small quantities, and how to cleanse containers. However, for help with the collection of unwanted rural chemicals, contact ChemClear 1800 008 182 <http://www.chemclear.com.au/> and for help with the disposal of empty drums, contact DrumMuster <http://www.drummuster.com.au/> where you will find contact details for your area.

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: Amitrole, Ammonium thiocyanate, are 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
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 SDS SUMMARISES OUR BEST KNOWLEDGE OF THE HEALTH AND SAFETY HAZARD STATEMENT: 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.

Please read 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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