

Section 1 - Identification of Chemical Product and Company

Farmoz Pty Ltd, Suite 1, Level 4, Building B
207 Pacific Highway St Leonards, NSW 2068
ACN 050 328 973

Telephone (02)9431 7800 (24 hours)

Fax (02)9431 7700

Substance: Imazethapyr is an imidazoline derivative.
Trade Name: **Farmoz Vezir Herbicide**
Product Use: Agricultural herbicide for use as described on the product label.
Creation Date: **December, 2008**
Revision Date: **September, 2009**

Section 2 - Hazards Identification

Statement of Hazardous Nature

This product is classified as: Xn, Harmful. Xi, Irritating. N, Dangerous to the environment. Hazardous according to the criteria of ASCC.

Not a Dangerous Good according to the Australian Dangerous Goods (ADG) Code.

Risk Phrases: R36/38, R52/53. Irritating to eyes and skin. Harmful to aquatic organisms, may cause long-term adverse effects to the aquatic environment.

Safety Phrases: S2, S13, S23, S26, S28, S57, S61, S20/21, S24/25, S36/37. Keep out of reach of children. Keep away from food, drink and animal feeding stuffs. Do not breathe spray mists. In case of contact with eyes, rinse immediately with plenty of water and contact a doctor or Poisons Information Centre. After contact with skin, wash immediately with plenty of soap and water. Use appropriate container to avoid environmental contamination. Avoid release to the environment. Refer to special instructions/Safety Data Sheets. When using, do not eat, drink or smoke. Avoid contact with skin and eyes. Wear suitable protective clothing and gloves.

SUSDP Classification: None allocated

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

UN Number: None allocated

Emergency Overview

Physical Description & colour: Green-brown coloured soluble suspension.

Odour: Musty odour.

Major Health Hazards: Technical: The acute oral LD₅₀ for technical Imazethapyr was reported to be >5000 mg/kg for rats. The acute inhalation LC₅₀ for rats exposed to Imazethapyr is 3.27 mg/L. The dermal LD₅₀ for rabbits exposed to technical Imazethapyr was >2000 mg/kg. It was found to be slightly irritating to the rabbit eye, with complete recovery in 7 days. The technical material was found to be slightly irritating to the skin of male rabbits. This product is irritating to eyes and skin.

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 is a skin irritant. Symptoms may include itchiness and reddening of contacted skin. 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 skin exposure.

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.

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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:

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

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)
Imazethapyr (as ammonium salt)	101917-66-2	240g/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 ASCC 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 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. If irritation persists, repeat flushing and seek medical attention.

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.

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: There is no risk of an explosion from this product under normal circumstances if it is involved in a fire.

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

Extinguishing Media: Suitable 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: >100°C

Upper Flammability Limit: No data.

Lower Flammability Limit: No data.

Autoignition temperature: No data.

Flammability Class: No data.

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 no specific manufacturer recommendations. Use impermeable gloves with care. Eye/face protective

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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 MSDS 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 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: 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**, Industrial Clothing: **AS2919**, Industrial Eye Protection: **AS1336** and **AS/NZS 1337**, Occupational Protective Footwear: **AS/NZS2210**.

ASCC Exposure limits **TWA (mg/m³)** **STEL (mg/m³)**

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

The ADI for Imazethapyr is set at 2.8mg/kg/day. The corresponding NOEL is set at 276mg/kg/day. ADI means Acceptable Daily Intake and NOEL means No-observable-effect-level. Values taken from Australian ADI List, April 2008.

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: 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: There is no data that enables us to recommend any type except that it should be impermeable.

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.

Eyebaths or eyewash stations and safety deluge showers should be provided near to where this product is being used.

Section 9 - Physical and Chemical Properties:

Physical Description & colour: Green-brown coloured soluble suspension.

Odour: Musty odour.

Boiling Point: Not available.

Freezing/Melting Point: No specific data. Liquid at normal temperatures.

Volatiles: No data.

Vapour Pressure: Negligible at 60°C (Imazethapyr)

Vapour Density: No data.

Specific Gravity: 1.09-1.11 at 20°C

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Water Solubility:	Miscible.
pH:	6.5-6.7
Volatility:	No data.
Odour Threshold:	No data.
Evaporation Rate:	No data.
Coeff Oil/water distribution:	1.04 (pH 5), 1.49 (pH 7), 1.2 (pH 9) all at 25°C (log P octanol/water)
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: oxidising agents, zinc, iron, mild steel, brass, copper.

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: The acute oral LD₅₀ for technical Imazethapyr was reported to be >5000 mg/kg for rats. The acute inhalation LC₅₀ for rats exposed to Imazethapyr is 3.27 mg/L. The dermal LD₅₀ for rabbits exposed to technical Imazethapyr was >2000 mg/kg. It was found to be slightly irritating to the rabbit eye, with complete recovery in 7 days. The technical material was found to be slightly irritating to the skin of male rabbits.

Formulated product: The oral LD₅₀ of a 250g/L liquid formulation of Imazethapyr was also >5000 mg/kg for the rat and rabbit. The LC₅₀ was >2.67 mg/L. The dermal LD₅₀ was >5000 mg/kg. The liquid formulation was non-irritating to the rabbit eye and skin.

The oral LD₅₀ of a 70% granular formulation was >5000 mg/kg for the rat and >2000 mg/kg for the rabbit. It resulted in moderate irritation to the rabbit eye, with complete recovery in 14 days. It showed slight skin irritation to the rabbit with complete recovery in 72 hours.

Chronic Toxicity: 90-day dietary subchronic toxicity studies in rats and dogs had a No Observable Effect Level (NOEL) of 10,000 ppm, the highest dose tested. A 1-year feeding study in dogs fed diets containing of 0, 1,000, 5,000, or 10,000 ppm reported a NOEL of 1,000 ppm (25 mg/kg/day).

It appears that Imazethapyr has no reproductive effects, or teratogenic, mutagenic or carcinogenic properties.

Organ Toxicity: No information was found.

Fate in Humans and Animals: No information was found.

Classification of Hazardous Ingredients

Ingredient	Risk Phrases
Imazethapyr	Conc>=20%: Xi; R36/38

Section 12 - Ecological Information

Harmful to aquatic organisms, may cause long-term adverse effects to the aquatic environment. This product is biodegradable. It will not accumulate in the soil or water or cause long term problems.

Effects on Birds: not harmful to birds studied either in acute or 8 day studies.

Effects on Aquatic Organisms: Does not appear to be harmful to either fish or Daphnia magna (water flea).

Effects on Other Animals (Nontarget species): The contact LD₅₀ for honey bees was >100µg/bee.

ENVIRONMENTAL FATE

Breakdown of Chemical in Soil and Groundwater: The formulated product does not leach through the soil. It is weakly to moderately adsorbed and is not lost from the soil through volatilization. Low mobility, low risk of underground water contamination and low bioaccumulation potential.

Half life: 60-90 days in the field and 158 days in laboratory conditions. Degradation is mainly by photolysis and microbial action.

Breakdown of Chemical in Surface Water: No information was found.

Breakdown of Chemical in Vegetation: The formulated product is readily absorbed through the roots and foliage. It is translocated in both xylem and phloem tissues and accumulates in growing points.

For Imazethapyr:

LD ₅₀ Bird: mallard: >2150mg/kg	LD ₅₀ bobwhite quail: >2150mg/kg
LC ₅₀ Fish: bluegill sunfish: 420mg/L	LC ₅₀ rainbow trout: 340mg/L
EC ₅₀ Algae: <i>Selenastrum capricornutum</i> >1000mg/L	

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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.

Section 16 - Other Information

This MSDS 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
ASCC	Office of the Australian Safety and Compensation Council
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
SUSDP	Standard for the Uniform Scheduling of Drugs & Poisons
UN Number	United Nations Number

Contact Points:

Call Farnoz on (02)9431 7800 and ask for the technical manager.

Fax: (02)9431 7700

Police and Fire Brigade:

Dial 000

Emergency contact:

1800 024 973 (24 hours)

If ineffective:

**Dial Poisons Information Centre
(13 1126 from anywhere in Australia)**

The information contained in this Material Safety Data Sheet is provided in good faith and is believed to be correct at the date hereof. However, it is expected that individuals receiving the information will exercise their independent judgement in determining its appropriateness for a particular purpose. Farnoz Pty Ltd makes no representation as to the accuracy or comprehensiveness of the information and to the full extent allowed by law excludes all liability whatsoever, whether with respect to negligence or otherwise, for any loss or damage arising from or connection with the supply or use of the information in this Material Safety Data Sheet.

Please read all labels carefully before using product.

This MSDS is prepared in accord with the ASCC document "National Code of Practice for the Preparation of Material Safety Data Sheets" 2nd Edition [NOHSC:2011(2003)]

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<http://www.kilford.com.au/> Phone (02)9251 4532

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