

4Farmers metribuzin 750 WGD

Hazard Alert Code: MODERATE

Chemwatch Material Safety Data Sheet
Issue Date: 4-Oct-2010
XC9317SC

CHEMWATCH 24-9727
Version No:2.0
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Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

4Farmers metribuzin 750 WGD

PROPER SHIPPING NAME

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(contains metribuzin)

PRODUCT USE

Herbicide for control of weeds in a variety of crops.

SUPPLIER

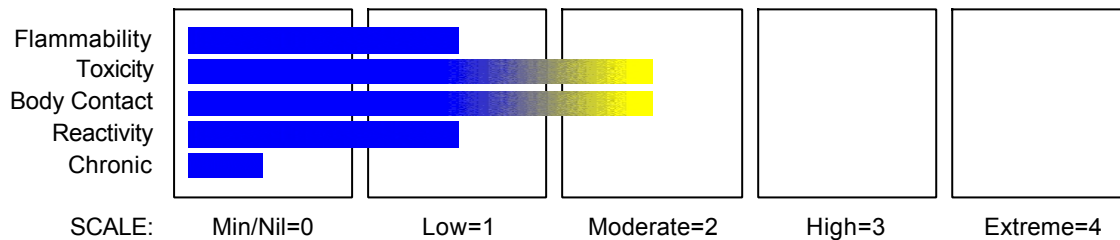
Company: 4Farmers
Address:
1/70 McDowell Street
Welshpool, 6106
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Telephone: +61 8 9356 3445
Fax: +61 8 9356 3447
Email: admin@4farmers.com.au
Website: <http://www.4farmers.com.au/msds/>

Section 2 - HAZARDS IDENTIFICATION

STATEMENT OF HAZARDOUS NATURE

HAZARDOUS SUBSTANCE. DANGEROUS GOODS. According to NOHSC Criteria, and ADG Code.

CHEMWATCH HAZARD RATINGS



RISK

- Harmful in contact with skin and if swallowed.
- Very toxic to aquatic organisms, may cause long- term adverse effects in the aquatic environment.

SAFETY

- Do not breathe dust.
- Wear suitable protective clothing.
- To clean the floor and all objects contaminated by this material, use water.
- This material and its container must be disposed of in a safe way.
- Keep away from food, drink and animal feeding stuffs.
- If swallowed, IMMEDIATELY contact Doctor or Poisons Information Centre. (show this container or label).

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Section 2 - HAZARDS IDENTIFICATION

- Use appropriate container to avoid environmental contamination.
- Avoid release to the environment. Refer to special instructions/Safety data sheets.
- This material and its container must be disposed of as hazardous waste.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
metribuzin	21087-64-9	75
dispersing/wetting agents		10-30
inerts		balance

Section 4 - FIRST AID MEASURES

SWALLOWED

- IF SWALLOWED, REFER FOR MEDICAL ATTENTION, WHERE POSSIBLE, WITHOUT DELAY.
- For advice, contact a Poisons Information Centre or a doctor.
- Urgent hospital treatment is likely to be needed.
- In the mean time, qualified first-aid personnel should treat the patient following observation and employing supportive measures as indicated by the patient's condition.

EYE

- If this product comes in contact with the eyes:
 - Wash out immediately with fresh running water.
 - Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.
 - Seek medical attention without delay; if pain persists or recurs seek medical attention.
 - Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

SKIN

- If skin contact occurs:
 - Immediately remove all contaminated clothing, including footwear.
 - Flush skin and hair with running water (and soap if available).
 - Seek medical attention in event of irritation.

INHALED

- If dust is inhaled, remove from contaminated area.
- Encourage patient to blow nose to ensure clear passage of breathing.
- If irritation or discomfort persists seek medical attention.

NOTES TO PHYSICIAN

- for poisons (where specific treatment regime is absent):

BASIC TREATMENT

- Establish a patent airway with suction where necessary.
 - Watch for signs of respiratory insufficiency and assist ventilation as necessary.
 - Administer oxygen by non-rebreather mask at 10 to 15 L/min.
 - Monitor and treat, where necessary, for pulmonary oedema .
- Treat symptomatically.

Section 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

- Water spray or fog.
- Foam.
- Dry chemical powder.

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Section 5 - FIRE FIGHTING MEASURES

- BCF (where regulations permit).

FIRE FIGHTING

- Alert Fire Brigade and tell them location and nature of hazard.
- Wear breathing apparatus plus protective gloves.
- Prevent, by any means available, spillage from entering drains or water courses.
- Use water delivered as a fine spray to control fire and cool adjacent area.

FIRE/EXPLOSION HAZARD

- Combustible solid which burns but propagates flame with difficulty; it is estimated that most organic dusts are combustible (circa 70%) - according to the circumstances under which the combustion process occurs, such materials may cause fires and / or dust explosions.
- Avoid generating dust, particularly clouds of dust in a confined or unventilated space as dusts may form an explosive mixture with air, and any source of ignition, i.e. flame or spark, will cause fire or explosion. Dust clouds generated by the fine grinding of the solid are a particular hazard; accumulations of fine dust (420 micron or less) may burn rapidly and fiercely if ignited - particles exceeding this limit will generally not form flammable dust clouds.; once initiated, however, larger particles up to 1400 microns diameter will contribute to the propagation of an explosion.
- In the same way as gases and vapours, dusts in the form of a cloud are only ignitable over a range of concentrations; in principle, the concepts of lower explosive limit (LEL) and upper explosive limit (UEL).are applicable to dust clouds but only the LEL is of practical use; - this is because of the inherent difficulty of achieving homogeneous dust clouds at high temperatures (for dusts the LEL is often called the "Minimum Explosible Concentration", MEC)
- A dust explosion may release of large quantities of gaseous products; this in turn creates a subsequent pressure rise of explosive force capable of damaging plant and buildings and injuring people.

Combustion products include: carbon monoxide (CO), carbon dioxide (CO₂), hydrogen chloride, phosgene, nitrogen oxides (NO_x), sulfur oxides (SO_x), other pyrolysis products typical of burning organic material.

May emit poisonous fumes.

FIRE INCOMPATIBILITY

- Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result.

HAZCHEM

2Z

Personal Protective Equipment

Breathing apparatus.

Chemical splash suit.

Section 6 - ACCIDENTAL RELEASE MEASURES

MINOR SPILLS

- Remove all ignition sources.
- Clean up all spills immediately.
- Avoid contact with skin and eyes.
- Control personal contact by using protective equipment.

MAJOR SPILLS

- Moderate hazard.
- CAUTION: Advise personnel in area.
- Alert Emergency Services and tell them location and nature of hazard.
- Control personal contact by wearing protective clothing.
- Prevent, by any means available, spillage from entering drains or water courses.

Personal Protective Equipment advice is contained in Section 8 of the MSDS.

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

- Avoid all personal contact, including inhalation.
- Wear protective clothing when risk of exposure occurs.

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Section 7 - HANDLING AND STORAGE

- Use in a well-ventilated area.
 - Prevent concentration in hollows and sumps.
- Empty containers may contain residual dust which has the potential to accumulate following settling. Such dusts may explode in the presence of an appropriate ignition source.
- Do NOT cut, drill, grind or weld such containers.
 - In addition ensure such activity is not performed near full, partially empty or empty containers without appropriate workplace safety authorisation or permit.

SUITABLE CONTAINER

- Polyethylene or polypropylene container.
- Check all containers are clearly labelled and free from leaks.

STORAGE INCOMPATIBILITY

- Avoid reaction with oxidising agents.

STORAGE REQUIREMENTS

- Store in original containers.
- Keep containers securely sealed.
- Store in a cool, dry, well-ventilated area.
- Store away from incompatible materials and foodstuff containers.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

Source	Material	TWA ppm	TWA mg/m ³	STEL ppm	STEL mg/m ³	Peak ppm	Peak mg/m ³	TWA F/CC	Notes
Australia Exposure Standards	4Farmers metribuzin 750 WGD (Metribuzin)		5						

PERSONAL PROTECTION



RESPIRATOR

- particulate.

EYE

- Safety glasses with side shields
- Chemical goggles.
- Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lens or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59].

HANDS/FEET

- Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include: such as:
 - frequency and duration of contact,
 - chemical resistance of glove material,
 - glove thickness and
 - dexterity.
- Experience indicates that the following polymers are suitable as glove materials for protection against undissolved, dry solids, where abrasive particles are not present.
- polychloroprene
 - nitrile rubber

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

- butyl rubber
- fluorocaoutchouc.

OTHER

- Overalls.
- P.V.C. apron.
- Barrier cream.
- Skin cleansing cream.

ENGINEERING CONTROLS

- Local exhaust ventilation is required where solids are handled as powders or crystals; even when particulates are relatively large, a certain proportion will be powdered by mutual friction.
- Exhaust ventilation should be designed to prevent accumulation and recirculation of particulates in the workplace.
- If in spite of local exhaust an adverse concentration of the substance in air could occur, respiratory protection should be considered. Such protection might consist of:
 - (a): particle dust respirators, if necessary, combined with an absorption cartridge;
 - (b): filter respirators with absorption cartridge or canister of the right type;
 - (c): fresh-air hoods or masks
- Build-up of electrostatic charge on the dust particle, may be prevented by bonding and grounding.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Off-white to beige granules with distinctive thiol odour; mixes with water.

PHYSICAL PROPERTIES

Mixes with water.

State	Divided Solid	Molecular Weight	Not Applicable
Melting Range (°C)	126	Viscosity	Not Available
Boiling Range (°C)	Not Available	Solubility in water (g/L)	Miscible
Flash Point (°C)	Not Available	pH (1% solution)	Not Available
Decomposition Temp (°C)	Not Available	pH (as supplied)	Not Available
Autoignition Temp (°C)	Not Available	Vapour Pressure (kPa)	58
Upper Explosive Limit (%)	Not Available	Specific Gravity (water=1)	0.5- 0.6
Lower Explosive Limit (%)	Not Available	Relative Vapour Density (air=1)	Not Available
Volatile Component (%vol)	Not Available	Evaporation Rate	Not Available

metribuzin

log Kow (Sangster 1997):

1.7

Section 10 - STABILITY AND REACTIVITY

CONDITIONS CONTRIBUTING TO INSTABILITY

- Presence of incompatible materials.
- Product is considered stable.
- Hazardous polymerisation will not occur.

For incompatible materials - refer to Section 7 - Handling and Storage.

Section 11 - TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

- Harmful in contact with skin and if swallowed.

CHRONIC HEALTH EFFECTS

- Generally not applicable.

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Section 11 - TOXICOLOGICAL INFORMATION

TOXICITY AND IRRITATION

■ For metribuzin:

- Acute toxicity: Metribuzin is slightly toxic via the oral route, with reported oral LD50 values of 1090 to 2300 mg/kg in rats, 700 mg/kg in mice and 245 to 274 mg/kg in guinea pigs. It is practically nontoxic dermally, with a dermal LD50 of 20,000 mg/kg in rabbits. The 4-hour inhalation LC50 for metribuzin in rats is greater than 0.65 mg/L, indicating moderate toxicity via the inhalation route. Metribuzin has been shown not to irritate the skin or eyes of rats, rabbits, guinea pigs, or human volunteers. Effects of high acute exposure in metribuzin poisoned rats included narcosis (stupor) and labored breathing. Deaths occurred within 24 hours, and survivors recovered slowly without permanent effects.
- Chronic toxicity: No ill effects were observed in dogs fed dietary doses of 12.5 mg/kg/day for 3 months. No effects were apparent in rats receiving 2.5 mg/kg/day over 3 months, but doses of 25 and 75 mg/kg/day caused enlarged livers and thyroid glands. In 2-year feeding studies with rats and dogs, results showed no observable effects at doses of 5 mg/kg/day in rats and 2.5 mg/kg/day in dogs. Reduced weight gain, an increase in the number of deaths, blood chemistry changes, and liver and kidney damage were observed in a 2-year study in which dogs were given 1500 ppm or 37.5 mg/kg/day of metribuzin .
- Reproductive effects: Doses of 15, 45, or 135 mg/kg/day of technical metribuzin were administered by gavage to rabbits on days 6 through 18 of pregnancy. No effects on the mothers were observed at a dose of 45 mg/kg, but 135 mg/kg lowered maternal weight gain [35]. No effects on the fetuses were observed at any of the doses tested. A three-generation study in rats at doses of up to 15 mg/kg/day (the highest dose tested), showed no influence on reproduction. Metribuzin does not cause reproductive effects.
- Teratogenic effects: In rats, reduced foetal body weights were seen at doses of 70 mg/kg/day, and developmental delays were observed at doses of 200 mg/kg/day. Metribuzin did not show teratogenic activity in rabbits at doses of up to 85 mg/kg/day, but did decrease weight gain in offspring. These data suggest that metribuzin is unlikely to cause teratogenic effects in humans under normal circumstances.

Section 12 - ECOLOGICAL INFORMATION

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

This material and its container must be disposed of as hazardous waste.

Avoid release to the environment.

Refer to special instructions/ safety data sheets.

Ecotoxicity

Ingredient	Persistence: Water/Soil	Persistence: Air	Bioaccumulation	Mobility
4Farmers metribuzin 750 WGD	No Data Available	No Data Available		
metribuzin	HIGH	No Data Available	LOW	MED

Section 13 - DISPOSAL CONSIDERATIONS

• Containers may still present a chemical hazard/ danger when empty.

• Return to supplier for reuse/ recycling if possible.

Otherwise:

• If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill.

• Where possible retain label warnings and MSDS and observe all notices pertaining to the product.

Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area.

A Hierarchy of Controls seems to be common - the user should investigate:

• Reduction.

• DO NOT allow wash water from cleaning or process equipment to enter drains.

• It may be necessary to collect all wash water for treatment before disposal.

• In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.

• Where in doubt contact the responsible authority.

• Recycle wherever possible.

• Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified.

• Dispose of by: burial in a land-fill specifically licenced to accept chemical and / or pharmaceutical wastes or Incineration in a licenced apparatus (after admixture with suitable combustible material)

• Decontaminate empty containers. Observe all label safeguards until containers are cleaned and destroyed.

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Section 14 - TRANSPORTATION INFORMATION



■ *Environmentally Hazardous Substances meeting the descriptions of UN 3077 or UN 3082 are not subject to this Code when transported by road or rail in;*

(a) *packagings;*

(b) *IBCs; or*

(c) *any other receptacle not exceeding 500 kg(L).*

- *Australian Special Provisions (SP AU01) - ADG Code 7th Ed.*

Labels Required: MISCELLANEOUS

HAZCHEM:

2Z (ADG7)

Land Transport UNDG:

Class or division:	9	Subsidiary risk:	None
UN No.:	3077	UN packing group:	III
Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (contains metribuzin)			

Air Transport IATA:

UN/ID Number:	3077	Packing Group:	III
Special provisions:	A97		
Cargo Only			
Packing Instructions:	400 kg	Maximum Qty/Pack:	956
Passenger and Cargo		Passenger and Cargo	
Packing Instructions:	400 kg	Maximum Qty/Pack:	956
Passenger and Cargo Limited Quantity		Passenger and Cargo Limited Quantity	
Packing Instructions:	30 kg G	Maximum Qty/Pack:	Y956

Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,
N.O.S. *(CONTAINS METRIBUZIN)

Maritime Transport IMDG:

IMDG Class:	9	IMDG Subrisk:	None
UN Number:	3077	Packing Group:	III
EMS Number:	F-A, S-F	Special provisions:	179 274 335 909
Limited Quantities:	5 kg	Marine Pollutant:	Yes
Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(contains metribuzin)			

Section 15 - REGULATORY INFORMATION

POISONS SCHEDULE None

REGULATIONS

Regulations for ingredients

metribuzin (CAS: 21087-64-9) is found on the following regulatory lists;

"Australia - Australian Capital Territory - Environment Protection Regulation: Ambient environmental standards (AQUA/1 to 6 - organic chemicals - pesticides)", "Australia - Australian Capital Territory - Environment Protection Regulation: Ambient environmental standards (Domestic water supply - pesticides)", "Australia - Australian Capital Territory - Environment Protection Regulation: Pollutants entering waterways taken to cause environmental harm (Aquatic habitat)", "Australia - Australian Capital Territory Environment Protection Regulation Pollutants entering waterways - Domestic water quality", "Australia ADI list - Acceptable daily intakes for agricultural and veterinary chemicals", "Australia Exposure Standards", "Australia Hazardous Substances", "Australia Inventory of Chemical Substances (AICS)", "Australia New Zealand Food Standards Code - Maximum Residue Limits (Australia only) - Schedule 1", "Australia New Zealand Food Standards Code - Maximum Residue Limits (Australia only) - Schedule 3 - Chemical Groups"

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Section 15 - REGULATORY INFORMATION

No data for 4Farmers metribuzin 750 WGD (CW: 24-9727)

Section 16 - OTHER INFORMATION

■ Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

A list of reference resources used to assist the committee may be found at:

www.chemwatch.net/references.

■ The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings.

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This is the end of the MSDS.