

# MATERIAL SAFETY DATA SHEET



TRI-ALLATE 400 EC

4 FARMERS PTY LTD

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MSDS NO. -50421

## PRODUCT IDENTIFICATION

**Product Name** 4 FARMERS TRI-ALLATE 400 E.C.

Other Names: None  
Manufacturer's Code: None  
U.N. Class and Number: 2902  
Australian Code for Transport of Dangerous Goods by Road: 6.1 (b) Packing group (III)  
Poisons Schedule: Schedule 5  
Hazchem Code: 2[Z]

**Use** Agricultural Herbicide.

### Physical Description/Properties

Appearance: Dark brown coloured liquid with hydrocarbon odour.

Specific Gravity: 1.03  
Flash Point (C): 64 TCC  
LEL: Autoignition (C):  
UEL:  
Solubility (Water): Forms an emulsion  
Vapour Pressure: 18mmHg @ 38°C  
Percent Volatiles: 52  
Melting Point (C):

### Ingredients

Chemical Entity	CAS No	Proportion
Tri-allate (active ingredient)	2303-17-5	42%
Liquid Hydrocarbon	-	52%
Emulsifiers		6%

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## HEALTH HAZARD INFORMATION

### Health Effects

Ingestion:	Practically non-toxic The LD <sub>50</sub> values for various species Rats & Mice: 1000 mg/kg Rabbits: 250-500 mg/kg Dogs: >500 mg/kg
Skin Contact/ Absorption:	Practically non-toxic. Facial skin contact may cause numbness and irritation.
Eye Contact:	Moderately irritating.
Inhalation:	Non-volatile. Dust may be slightly toxic if inhaled over long periods. The LC <sub>50</sub> for rat inhalation is 3.27 mg/L air

## EMERGENCY AND FIRST AID PROCEDURES

### First Aid

Ingestion:	If more than 15 minutes from a hospital, induce vomiting, preferably using IPECAC Syrup APF. Seek medical advice.
Inhalation:	Not volatile. Inhalation of dust may cause respiratory irritation.
Skin Contact:	Remove contaminated clothing and wash affected skin thoroughly with soap and water.
Eye Contact:	Hold eyes open, flood with water for at least 15 minutes. Seek medical advice.

### Advice to Doctor

Treat symptomatically.  
Contact a Poisons Information Centre on 131126.

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## PRECAUTIONS FOR USE

Avoid contact with skin and eyes.  
Avoid breathing the dust.  
Avoid contamination of seed, animal feed and foodstuffs.

**Exposure Limits** Store below 30°C Keep away from heat and moisture

**Ventilation** No special precautions required.

### Personal Protection

Wear safety glasses when handling or during other activities where there is potential for eye contact. Wear full body clothing and impervious gloves to prevent skin contact. Remove contaminated clothing promptly. Launder clothing and wash protective equipment before re-use.

**Flammability** Non-flammable, non-combustible.

## SAFE HANDLING INFORMATION

### Storage and Transportation

Stable under normal storage conditions. Keep in the original container in a cool, dry, well-ventilated area out of direct sunlight.

### Spills and Disposals

Shovel or sweep spills into drums. Dispose of in an approved land-fill. Wash contaminated surfaces with detergent and water.

**Do not** contaminate ponds, waterways or drains with the product or used containers as harmful to fish.

### Fire/Explosion Hazards

No fire or explosion hazard. In the event of a fire, use water spray, foam, dry chemical or CO<sub>2</sub>.

**FOR ADDITIONAL NON-EMERGENCY INFORMATION CALL**

4 FARMERS PTY. LTD.

**Telephone: (08) 9356 3445**

**Facsimile: (08) 9356 3447**

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## HEALTH HAZARDS

**HEALTH EFFECTS:** The following Information summarizes human experience and the results of scientific investigations reviewed by health professionals for hazard evaluation of the material and the development of precautionary and safe handling procedures recommended in this document.

**Human Experience:** Dermal contact and inhalation are expected to be the primary route/s of occupational exposure to this material. 4FARMERS TRI-ALLATE 400 EC HERBICIDE is considered to be moderately irritating to eyes.

**Toxicological Data:** Data from Monsanto studies indicate the following:

Oral LD50 (Rat): 2,193mg/k, Slightly Toxic  
Dermal LD5 (Rabbit): >5,000/g, Practically Non-toxic  
Eye Irrit.( rabbit, 24-hr): (FUSA) 14.7 on a scale of 110.0, Mod. Irrit.  
Sin Irrit. (Rabbit, 24-hr): (FUSA) 1.7 on a scale of 8.0, Slightly Irrit

Following a 24-hr topical application of 4FARMERS TRI-ALLATE 400 EC HERBICIDE to the abdomen of rhesus monkeys, approximate 12% of the administered dose of the active ingredient (Tri-allate) was systemically absorbed. During a 7 day collection period, excretion in the urine was the major route of elimination following systemic absorption.

Data from Monsanto studies with a similar formulation of AVADDEX 8W indicate the following:

Oral LD50 (Dog): >20,000 mg/kg  
Inhalation 4- hr LC50 (Rat): >5.2 mg/L (analytical concentration.) No mortality was observed at 5.2 mg/L, the highest atmospheric concentration achievable in the study.

Patch testing of 50 human volunteers produce no positive reactions following initial application, any of 15 repeated applications in the induction phase, or on subsequent challenge. 4FARMERS TRI-ALLATE 400 EC HERBICIDE is not considered a primary irritant or a sensitizing agent.

Patch testing of guinea pigs produced no Irritation following initial application; erythema, oedema and/or necrosis were observed in some animals during subsequent repeated exposures in the induction phase. On challenge, no sensitization was observed in any of the animals. This formulation of 4FARMERS TRI-ALLATE 400 EC HERBICIDE is not considered a dermal sensitizing agent in guinea pigs.

The formulation similar to 4FARMERS TRI-ALLATE 400 EC HERBICIDE was applied to the intact and abraded skin of rabbits at dosages of 50, 250 and 1000 mg/kg/day for 6 hours/day, 5 days/week for 3 weeks. Dermal irritation at the site of application was apparent at all dosage levels tested and ranged from slight to severe in a dose-related pattern. Repeated dermal application

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did not produce systemic effects as determined by haematology, clinical chemistry and histopathologic evaluations.

Rats were orally administered the formulation, by intubation, at dosages of 5, 20 and 60 mg/kg/day for 30 days. Growth was reduced in males at all dosage levels and in females at the highest dosage level. No adverse pathological effects were observed.

See Other Information for additional Toxicological Data.

**SWALLOWED:** Harmful if swallowed.

## SKIN

Causes skin irritation,

## EYE

Causes eye irritation.

## FIRST AID

**SWALLOWED:** If poisoning occurs, contact a doctor or Poisons Information Centre. If swallowed, and if more than 15 minutes from a hospital induce vomiting, preferably using Ipecac Syrup APF, Avoid giving alcohol.

**EYE:** Hold eyes open, flood with water for at least 15 minutes and see a doctor.

**SKIN:** Remove contaminated clothing and wash skin thoroughly,

**ADVICE TO DOCTOR:** None available.

## PRECAUTIONS FOR USE

## EXPOSURE STANDARDS

Airborne Exposure Limits: No exposure limits have been established for this material or its components.

**ENGINEERING CONTROLS:** Store or handle in a well ventilated area to minimize exposure and build-up of combustible vapours. Use local mechanical exhaust ventilation at sources of air contamination such as open process equipment.

## PERSONAL PROTECTION

Precautionary Measures:

Avoid contact with eyes, skin and clothing, Avoid breathing mist or vapour. Avoid contamination of fertilizers, spray materials, seed, feed, foodstuffs or water by storage or disposal.  
Do not use, store, pour or spill near open flame.

**Eye Protection:** Wear a face shield or chemical safety goggles to prevent eye contact during mixing/pouring operations or other activities in which eye

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contact with undiluted material is likely to occur. Have eye-flushing equipment available.

**Skin Protection:** Wear face-shield, protective long-sleeved clothing and impervious gloves during mixing/pouring operations or other activities in which contact with undiluted material is likely to occur. Wash hands and contaminated skin thoroughly after handling, Launder contaminated clothing and clean protective equipment before re-use.

## **Respiratory Protection:**

Avoid breathing mist or vapour.

Use only with adequate ventilation

Respiratory protection should not be required for normal use/handling.

During periods of abnormal exposure to heavy spray or mist or vapour, use of respiratory equipment approved for pesticide vapour/mist is recommended, The respirator use imitations specified by the manufacturer must be observed. Respiratory protection programs must be in compliance with AS 1715 and AS 1716.

## **FLAMMABILITY**

Combustible.

Do not use, store, pour or spill near heat or open flame.

See Safe Handling Information - Fire/Explosion Hazard.

## **SAFE HANDLING INFORMATION**

### **STORAGE AND TRANSPORT**

Stable for at least 4 years under normal conditions of warehouse storage.

Avoid contamination of fertilizers, spray materials, seed, feed, foodstuffs or water by storage or disposal.

Keep container closed. to prevent spills, evaporation or contamination.

Australian Transport Code:

Label: N/A    Packaging Group: N/A    EPG/GTEPG: N/A

### **SPILLS AND DISPOSAL**

Sill or Leakage Procedures:

Observe all PRECAUTIONS FOR USE including use of rubber boots or rubber overshoes, when cleaning up spills.

Contain and absorb liquid spills on floor or other impervious surfaces with absorbent clays e.g. attapulgate, bentonite or kitty litter. Collect contaminated absorbent, place in metal drum and dispose of in accordance with instructions provided under Waste Disposal. Thoroughly scrub floor or other Impervious surfaces with a strong industrial -type detergent solution and rinse with water.

Liquid spills that soak into the ground should be dug up placed in metal drums and disposed of as recommended under Waste Disposal.

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Leaking containers should be separated from non-leakers and either container or its contents transferred to a metal drum or other non-leaking container and disposed of as recommended under Waste Disposal. Any recovered spilled liquid should be similarly collected and disposed of.

Keep material out of sewers, watersheds and water systems.

## **Waste Disposal:**

Avoid contamination of fertilizers, spray materials, seed, feed, foodstuffs or water by storage or disposal. Keep material out of sewers, watersheds and water systems.

Wastes that cannot be used according to label instructions or chemically re-processed should be disposed of in a landfill approved for pesticide disposal. Dispose of in accordance with all applicable local and state laws.

## **Containers:**

Emptied containers retain vapours and material residue. Observe all Labeled safeguards until container is cleaned, reconditioned or destroyed.

DO NOT CUT OR WELD ON OR NEAR THIS CONTAINER.

Triple rinse container then offer for recycling/reconditioning or puncture and dispose of in an approved landfill, or by other procedures approved by state and local authorities.

## **FIRE/EXPLOSION HAZARD**

Extinguishing Media: Water spray, foam, BCE, dry chemical, carbon dioxide and/or any Class B extinguishing agent.

Special Fire-fighting Procedures: Cool surrounding containers & pipes with water. Fire fighters or others exposed to products of combustion should wear full protective clothing including self-contained breathing apparatus. Thoroughly decontaminate equipment after use.

Unusual Fire and Explosion Hazards: None.

## **Reactivity Data:**

Avoid strong oxidizing agents, Contact with metal discolours product.

Lacquered steel protects colour.

Product stable for at least 4 years under normal conditions of warehouse storage.

Hazardous decomposition products are hydrogen chloride, carbonyl sulphide, carbonyl chloride.

Hazardous polymerization does not occur.

## **SPECIAL NOTES**

Warning Statements:  
WARNING.

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KEEP OUT OF REACH OF CHILDREN.  
READ SAFETY DIRECTIONS ON LABEL BEFORE OPENING.  
CAUSES SKIN AND EYE IRRITATION.  
COMBUSTIBLE.

## OTHER INFORMATION

Active Ingredient: Tri-allate [S-(2,3,3 trichloroallyl) diisopropylthiocarbamate]

Toxicological Data (continued):

In a 4 week inhalation stud with rats, exposure to the formulation at concentrations o 0.05, 0.1 and 0.51 mg/L (analytical concentration) produced sensory irritation and decrease body weight/body weight gains at the mid and hi exposure levels. Haematological alterations suggestive of decreased red blood cell life span were also noted at the high exposure level. Clinical evidence of liver toxicity and structural and functional kidney alterations were observed at all exposure levels.

Beagle dogs were given the formulation by gavage at dosages of 15, 30 and 60 mg/kg/day for 30 days, Growth was reduced by 15 mg/kg and above. No adverse haematological, biochemical (liver function tests), or pathological effects were observed,

Data from Monsanto studies and from the scientific literature on the components of 4FARMERS TRI-ALLATE 400 EC HERBICIDE are discussed below:

Components: Tri-allate.

Tri-allate the active herbicidal ingredient of 4FARMERS TRI-ALLATE 400 EC HERBICIDE, has been extensively tested in mutagenicity, teratogenicity, reproductive, acute, sub-chronic and chronic toxicity studies and in tests for delayed neurotoxicity and dermal sensitization potential. Abnormal behavioural effects have been observed in laboratory animals following acute and sub-chronic over-exposure to Tri-allate. For additional toxicity information on Tri-allate, refer to the Tri-allate Technical Material Safety Data Sheet.

Components: Emulsifiers.

The surfactant properties of these materials are considered to contribute to the eye and skin irritation potential of AVADEX 6W.

Environmental Toxicity Information:

96-hr LCSO Blue ill Sunfish:	2.4 mg/L, Moderately Toxic
96-hr LC50 Rainbow Trout:	1.5 mg/L, Moderately Toxic
8-day dietary LC50 White quail:	>5,620 ppm, practically Non-toxic

FOR ADDITIONAL NON-EMERGENCY INFORMATION, CALL:  
4Farmers Pty Ltd on )08( 9356 3445

Although the information and recommendations set forth herein ("information") are presented in good faith and believed to be correct as of the

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NOTE: The physical data are typical values based on material tested but may vary between samples. Values should not be construed as a guaranteed analysis of any specific lot or as specifications for the product.