

MATERIAL SAFETY DATA SHEET



Date of Issue: February 7, 2007

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product name Tramat[®] 500 SC Selective Herbicide

Other names None

Product codes and pack sizes 4209639 (5 L)

Chemical group Benzofuran

Recommended use Agricultural herbicide

Formulation Suspension concentrate (SC)

Supplier Bayer CropScience Pty Ltd ABN 87 000 226 022

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2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW
NON-HAZARDOUS SUBSTANCE – NON-DANGEROUS GOOD (road/rail)
Toxic to aquatic organisms.

Hazard classification Not Hazardous (National Occupational Health and Safety Commission - NOHSC)

Risk phrases None

Safety phrases See Sections 4, 5, 6, 7, 8, 10, 12, 13

ADG classification Not a "Dangerous good" for transport by road or rail according to the Australian Code for the Transport of Dangerous Goods by Road and Rail. Class 9 Dangerous Good, Marine Pollutant if shipped by sea. See Section 14.

SUSDP classification (Poison Schedule) Schedule 5 (Standard for the Uniform Scheduling of Drugs and Poisons)

3. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredients	CAS Number	Concentration (g/L)
Ethofumesate	[26225-79-6]	500
1,2-propanediol	[57-55-6]	< 10%
Other ingredients, including thickeners, surfactants and water	Non-hazardous	Remainder

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4. FIRST AID MEASURES

If poisoning occurs, immediately contact a doctor or Poisons Information Centre (telephone 13 11 26), and follow the advice given. Show this Material Safety Data Sheet to the doctor.

Inhalation	If inhaled, remove to fresh air and keep at rest. Obtain medical advice if symptoms persist.
Skin contact	Wash off immediately with soap and plenty of water. Seek medical aid if symptoms persist.
Eye contact	Immediately rinse eyes with plenty of water and seek medical advice.
Ingestion	Wash out mouth with water. Do NOT induce vomiting. Obtain medical attention.
First Aid facilities	Provide washing facilities in the workplace.
Medical attention	No symptoms, local or systemic, have been reported with this product. Initial treatment should be symptomatic and supportive. If more than a mouthful of this product is ingested the following measures should be considered: Endotracheal intubation and gastric lavage, followed by administration of charcoal. Monitor kidney and respiratory functions. Monitor fluid balance Monitor level of consciousness. Elimination by dialysis (forced alkaline diuresis). There is no specific antidote. Recovery is expected to be spontaneous.

5. FIRE FIGHTING MEASURES

Extinguishing media	Water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Hazards from combustion products	In a fire dangerous gases may be evolved.
Precautions for fire fighters	Product is not combustible. Fire fighters should wear full protective gear, including self-contained breathing apparatus (AS/NZS 1715/1716). Toxic decomposition products may be produced in a fire. If it can be done safely, remove intact containers from exposure to fire. Otherwise, use water spray to cool them. Keep unnecessary people away. Bund area to prevent contamination of water sources. Dispose of fire control water and spillage safely later.
Hazchem code	3Z

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6. ACCIDENTAL RELEASE MEASURES

Avoid contact with spilled material or contaminated surfaces. When dealing with spills, do not eat, drink or smoke. Wear protective clothing and equipment as described in Section 8 – PERSONAL PROTECTION. Keep people and animals away and upwind. Prevent spilled material from entering drains or watercourses. Contain spill and absorb with earth, sand, clay, or other absorbent material. Collect and store in properly labelled, sealed drums for safe disposal. Deal with all spillages immediately. If contamination of drains, streams, watercourses, etc. is unavoidable, warn the local water authority.

7. HANDLING AND STORAGE

Handling	Keep out of reach of children. May irritate the eyes and skin. Avoid contact with eyes and skin. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each day's use, wash gloves and any other protective equipment.
Storage	Store in the closed, original container in a cool, well-ventilated area. Do not store for prolonged periods in direct sunlight. Protect from frost.
Flammability	Product is not combustible.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure standards	The NOHSC exposure standards for propane-1,2-diol are: Vapour and particulates - TWA 150 ppm, 474 mg/m ³ Particulates only - TWA 10 mg/m ³
	<u>Definition</u> <i>Exposure standard – Time Weighted Average (TWA)</i> means the average airborne concentration of a particular substance when calculated over a normal eight-hour working day, for a five-day working week.
Biological limit values	None allocated
Engineering controls	Control process conditions to avoid contact and to comply with exposure standards above. Use in a well-ventilated area only.
Personal Protective Equipment	To avoid eye and skin contact, wearing the following personal protective clothing and equipment is recommended: <ul style="list-style-type: none">▪ Safety goggles.▪ Cotton overalls buttoned to the neck and wrist▪ Elbow-length PVC gloves▪ Respiratory protection is not normally required. If aerosol or mist is formed and airborne concentrations are likely to exceed the exposure standard above, an AS/NZS 1715/1716 approved respirator should be worn.

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9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Beige to brown liquid suspension
Odour:	Faint
pH:	6.5 to 7.5 (undiluted)
Vapour pressure:	Not available
Vapour density:	Not available
Boiling point:	Boiling point ~ 100° C
Freezing/melting point:	Not available
Solubility:	Forms a suspension in water
Density:	1.13 g/mL at 20° C
Flash Point:	Not flammable
Flammability (explosive) limits:	Not applicable
Auto-ignition temperature:	Not available
Partition coefficient (octanol/water):	<i>Ethofumesate</i> : Log P _{ow} = 2.7 at 25° C

10. STABILITY AND REACTIVITY

Chemical stability	Stable under normal conditions of use.
Conditions to avoid	Avoid extremes of temperature and direct sunlight.
Incompatible materials	None known
Hazardous decomposition products	Toxic fumes may be given off if heated to decomposition.
Hazardous reactions	None known

11. TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

Inhalation	Low toxicity by inhalation.
Skin contact	May irritate skin. The dermal toxicity of this product is low. It is not a skin sensitiser.
Eye contact	May irritate the eyes.
Ingestion	The acute toxicity of this product is low.

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11. TOXICOLOGICAL INFORMATION - continued

ANIMAL TOXICITY DATA - PRODUCT

Acute:

Oral toxicity	LD ₅₀ rat: > 2100 mg/kg
Dermal toxicity	LD ₅₀ rat: > 4100 mg/kg
Inhalation toxicity	Not available
Skin irritation	Not irritating (rabbit)
Eye irritation	Negligible to slightly irritating (rabbit)
Sensitisation	Not sensitising (guinea pig)

Chronic:

Ethofumesate is not carcinogenic, mutagenic or teratogenic and did not cause reproductive effects in animal studies.

12. ECOLOGICAL INFORMATION

Toxic to aquatic organisms. Low toxicity to birds, bees, earthworms and beneficial arthropods. DO NOT contaminate streams, rivers or waterways with the chemical or used containers.

Ecotoxicity

Tramat:

Fish toxicity: LC₅₀ (96 h) *Brachidanio rerio* 68.0 mg/L

Daphnia toxicity: EC₅₀ (48 h) water flea (*Daphnia magna*) 93.2 mg/L

Ethofumesate:

Fish toxicity: LC₅₀ (96 h) Carp (*Cyprinus carpio*) 10.92 mg/L

Daphnia toxicity: EC₅₀ (48 h) water flea (*Daphnia magna*) 13.52 mg/L

Algal toxicity: IC₅₀ (72 h) algae (*Scenedesmus subspicatus*) 3.9 mg/L

Bird toxicity: Acute oral LD₅₀ mallard duck > 3552 mg/kg

Acute oral LD₅₀ bobwhite quail > 8743 mg/kg

Environmental fate, persistence and degradability, mobility

Ethofumesate is not readily biodegradable (< 70%). It does not accumulate in soil and does not leach into groundwater. In bluegill sunfish the bioconcentration factor (BCF) was 67 – 144.

13. DISPOSAL CONSIDERATIONS

Triple or preferably pressure rinse containers before disposal. Add rinsings to spray tank. Do not dispose of undiluted chemicals on site. If recycling replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush, or puncture and bury empty containers in a local authority landfill. If no landfill is available, bury the containers below 500mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt. Dispose of waste product via a licensed disposal contractor to an approved landfill.

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14. TRANSPORT INFORMATION

UN number	Not applicable (road/rail)
Proper shipping name	Not applicable (road/rail)
Class and Subsidiary Risk	Not applicable (road/rail)
Packing Group	Not applicable (road/rail)
EPG	Not applicable (road/rail)
Hazchem code	3Z
Marine Pollutant	Yes. If Trammat is shipped by sea, it is classified as a Class 9, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (ethofumesate solution), Packing Group III, UN 3082, Marine Pollutant.

15. REGULATORY INFORMATION

Registered according to the Agricultural and Veterinary Chemicals Act 1988.

Australian Pesticides and Veterinary Medicines Authority approval number: 39508

See also Section 2.

16. OTHER INFORMATION

Trademark information Trammat® is a Registered Trademark of Bayer.

Preparation information Replaces August 1, 2002 MSDS.
Reasons for revision: 16 heading format, product codes and pack sizes, 1,2-propanediol declared in Ingredients list, Exposure Standards for propane-1,2-diol, Marine Pollutant, additional Ecological Information.

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 should read this MSDS and consider the information in the context of how the product will be handled and used in the workplace including in conjunction with other products.

If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact this company.

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.

END OF MSDS