

MATERIAL SAFETY DATA SHEET



Date of Issue: March 16, 2004

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product name Sencor® 480 SC Selective Herbicide
Other names None
Product codes 4953907 (5 L)
Chemical group Triazinone
Recommended use Herbicide for agricultural use
Formulation Suspension concentrate (SC)
Supplier Bayer CropScience Pty Ltd ABN 87 000 226 022
Address 391 - 393 Tooronga Road, East Hawthorn
Victoria 3123, Australia
Telephone (03) 9248 6888
Facsimile (03) 9248 6800
Website www.bayercropscience.com.au
Contact Development Manager (03) 9248 6888
Emergency Telephone Number 1800 033 111 – Orica SH&E Shared Services

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW
HAZARDOUS SUBSTANCE (see Risk phrases below) – NON DANGEROUS GOOD
Very toxic to aquatic organisms

Hazard classification Hazardous (National Occupational Health and Safety Commission - NOHSC)

Risk phrases R20 – Harmful if inhaled.
R22 – Harmful if swallowed.
R36 – Irritating to eyes.

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 in Europe)

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

3. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredients	CAS Number	Concentration (g/L)
Metribuzin	[21087-64-9]	480
Glycerin	[56-81-5]	≈ 175
Other ingredients, including suspending agents and water	(non hazardous)	≈ 505

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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 at all worried. If not breathing give artificial respiration and get medical attention as soon as possible.
Skin contact	Carefully remove contaminated clothing. Wash affected areas with soap and water. Seek medical aid if at all worried.
Eye contact	Rinse eyes immediately with clean water for at least 15 minutes and obtain medical aid.
Ingestion	Give a small amount of water. Do NOT induce vomiting. Keep patient at rest and seek medical advice as above. Do not give anything by mouth to a person who is semi conscious or unconscious.
First Aid Facilities	Ensure washing facilities are available, including an eyewash station.
Medical attention	<i>Local contamination:</i> Treatment should be symptomatic after decontamination. In case of skin or eye contamination, treat as above under First Aid Measures. <i>Systemic poisoning:</i> There is no specific antidote. Treat symptoms.

5. FIRE FIGHTING MEASURES

Extinguishing media	Water spray, foam, dry chemical, carbon dioxide, sand
Hazards from combustion products	In a fire, oxides of carbon, nitrogen and sulphur, mercaptans, hydrogen cyanide and amines may be formed.
Precautions for fire fighters	Fire fighters should wear full protective gear, including self-contained breathing apparatus (AS/NZS 1715/1716). Keep unnecessary people away. If it can be done safely, remove intact containers from the fire. Cool exposed containers with water spray. Bund area with sand or earth to prevent contamination of drains or waterways. Dispose of extinguishing agent and spillage safely later. Contamination of water bodies should be avoided.
Hazchem code	Not applicable

6. ACCIDENTAL RELEASE MEASURES

Avoid contact with spilled material or contaminated surfaces. Do not smoke, eat or drink during the clean up process. Wear personal protective clothing and equipment as detailed in Section 8 PERSONAL PROTECTION. Keep people and animals away. Contain spill and absorb with earth, sand, clay, or other absorbent material. Prevent spilled material from entering drains or watercourses. Collect and store in properly labelled disposal drums. Clean floor with a damp cloth and place it in the drum. Seal drums and label ready for safe disposal. Deal with all spillages immediately. If contamination of drains, streams, watercourses etc. is unavoidable, warn the local water authority.

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7. HANDLING AND STORAGE

Handling	Keep out of reach of children. Avoid contact with eyes and avoid inhaling spray mist. Wash hands after use.
Storage	Store in the closed, original container in a cool, well-ventilated area. Do not store for prolonged periods in direct sunlight.
Flammability	Not flammable.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure standards	The NOHSC exposure standard (TWA) for metribuzin is 5 mg/m ³ . The NOHSC exposure standard (TWA) for glycerin mist is: 10 mg/m ³ <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. Use in a well-ventilated area only.
Personal Protective Equipment	Eyes: Safety goggles Clothing: Cotton overalls buttoned to the neck and wrist and a washable hat Gloves: Elbow-length PVC gloves Respiratory: If inhalation is possible or airborne concentrations are likely to exceed the exposure standards above, an AS/NZS 1715/1716 approved respirator should be worn.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	White suspension
Odour:	Musty - like rotten eggs
pH:	5.0 to 8.0 at 20° C
Vapour pressure:	0.058 mPa at 20° C (metribuzin)
Vapour density:	Not available
Boiling point:	Approximately 100° C
Freezing point:	- 10° C
Solubility:	Miscible with water
Specific gravity:	1.16 at 20° C
Flash Point:	No flash point up to 100° C
Flammability (explosive) limits:	Not applicable
Auto-ignition temperature:	Not available
Partition coefficient (octanol/water):	<i>Metribuzin</i> : Log P _{ow} = 1.6 at 20° C and pH 5.6

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10. STABILITY AND REACTIVITY

Chemical stability	Stable under normal conditions of use.
Conditions to avoid	Heat, moisture
Incompatible materials	Avoid strong alkalis. Sencor may react with ketones and aldehydes.
Hazardous decomposition products	In a fire, oxides of carbon, nitrogen and sulphur, mercaptans, hydrogen cyanide and amines may be formed.
Hazardous reactions	None

11. TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

Inhalation	Harmful if inhaled.
Skin contact	May irritate the skin.
Eye contact	Will irritate the eyes.
Ingestion	Harmful if swallowed.

ANIMAL TOXICITY DATA – PRODUCT

Acute:

Oral toxicity	LD ₅₀ male rat: 1865 mg/kg (<i>similar formulation</i>) LD ₅₀ female rat: 1078 mg/kg (<i>similar formulation</i>)
Dermal toxicity	LD ₅₀ rat: > 2000 mg/kg (<i>similar formulation</i>)
Inhalation toxicity	LC ₅₀ rat: 3.055 mg/L – 4 hour exposure to liquid aerosol (analytical) (<i>similar formulation</i>) LC ₅₀ rat: 12.22 mg/L – 1 hour exposure to liquid aerosol (analytical) – extrapolated from 4 hour exposure
Skin irritation	Slightly irritating (rabbit) (<i>similar formulation</i>)
Irritation to mucous membranes	Moderately irritating (rabbit) (<i>similar formulation</i>)
Sensitisation	Not a dermal sensitiser (guinea pig) (<i>similar formulation</i>)

Chronic:

No evidence of carcinogenic potential was observed in chronic feeding studies with metribuzin in rats and mice. Metribuzin is not genotoxic, teratogenic or a reproductive toxin. Target organs are the thyroid and the liver.

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12. ECOLOGICAL INFORMATION

This product is very toxic to aquatic organisms. It has a low hazard to earthworms and bees. DO NOT contaminate streams, rivers or waterways with Sencor 480 or the used containers.

Ecotoxicity

Metribuzin:

Fish toxicity: LC₅₀ (96 h) golden orfe 141.6 mg/L

LC₅₀ (96 h) rainbow trout 74.6 mg/L

Daphnia toxicity: *Daphnia magna* LC₅₀ (48 h) 49.6 mg/L

Algal toxicity: E_rC₅₀ green algae (*Scenedesmus subspicatus*) 0.021 mg/L

Toxicity to bacteria: EC₅₀ activated sludge 761 mg/L

Bird toxicity:

Acute oral LD₅₀ bobwhite quail 164 mg/kg

Acute oral LD₅₀ mallard duck 460 - 680 mg/kg

Environmental fate, persistence and degradability, mobility

Metribuzin is moderately adsorbed on soils with high clay content. It is rapidly degraded in soil with microbial breakdown the major mechanism of loss. Photodecomposition in water is very rapid (DT₅₀ < 1 day). On soil surfaces under natural light conditions the DT₅₀ is 14 – 25 days.

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 500 mm 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. Unwanted product should be disposed of by a reputable waste disposal contractor.

14. TRANSPORT INFORMATION

UN number	Not applicable
Proper shipping name	Not applicable
Class and Subsidiary Risk	Not applicable
Packing Group	Not applicable
EPG	Not applicable
Hazchem code	Not applicable
Marine Pollutant	No – not on IMDG Code list. In Europe this product is classified as a Class 9, and a Marine Pollutant –“P”.

15. REGULATORY INFORMATION

Registered according to the Agricultural and Veterinary Chemicals Act 1988

Australian Pesticides and Veterinary Medicines Authority approval number: 31791

See also Section 2.

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16. OTHER INFORMATION

Trademark information Sencor® is a Registered Trademark of Bayer.

Preparation information Replaces August 1, 2002 MSDS.
Reasons for revision: Hazard classification, Risk phrases, 16 heading format, exposure standards.

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