

# MATERIAL SAFETY DATA SHEET



Date of Issue: October 2, 2007

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

**Product name** Prosper® 500 EC Fungicide  
**Other names** None  
**Product codes & pack sizes** 3331524 (2.5 L), 2813398 (10 L)  
**Chemical group** Spiroketalamine, morpholine  
**Recommended use** Agricultural fungicide  
**Formulation** Emulsifiable concentrate  
**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](http://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 phrase below) – DANGEROUS GOOD**  
**Combustible liquid. Very toxic to aquatic organisms.**

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

**Risk phrases** R20/21/22 – Harmful by inhalation, in contact with skin and if swallowed.  
R38 – Irritating to skin.  
R41 – Risk of serious damage to eyes.

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

**ADG classification** Classified as a “Dangerous good” for transport by road or rail according to the Australian Code for the Transport of Dangerous Goods by Road and Rail: PESTICIDE, LIQUID, TOXIC, N.O.S. (contains spiroxamine), Class 6.1, Packing Group III, UN 2902. Marine Pollutant.

**SUSDP classification (Poisons Schedule)** Schedule 6 (Standard for the Uniform Scheduling of Drugs and Poisons)

## 3. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredients	CAS Number	Concentration (g/L)
Spiroxamine	[118134-30-8]	500
Benzyl alcohol	[100-51-6]	250
Other ingredients, including emulsifiers	Non-hazardous	250

# MATERIAL SAFETY DATA SHEET



Date of Issue: October 2, 2007

## 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.**

<b>Inhalation</b>	If inhaled, remove to fresh air and keep warm and at rest. Seek medical advice as above immediately. Administer artificial respiration if breathing has stopped. Administer oxygen if breathing is difficult.
<b>Skin contact</b>	Carefully remove contaminated clothing. Wash affected areas with soap and water. Seek medical advice.
<b>Eye contact</b>	Rinse eyes immediately with clean water for at least 15 minutes, holding eyes open. Consult an eye specialist.
<b>Ingestion</b>	Do not induce vomiting. Rinse mouth with water. Obtain <b>immediate</b> medical advice as above.
<b>First aid facilities</b>	Provide eye wash and safety shower in the workplace.
<b>Medical attention</b>	<u>Information for the physician:</u> Spiroxamine belongs to the spiroketalamine chemical group. There is no specific antidote. <u>Symptoms</u> <i>Local:</i> Very irritating to skin and respiratory tract. Risk of serious damage to eyes. <i>Systemic:</i> Overexposure to benzyl alcohol may cause headache, nausea, vomiting, gastrointestinal irritation, convulsions, central nervous system depression, unconsciousness. <u>Treatment</u> For <i>local contamination</i> treatment should be symptomatic after decontamination. In case of skin or eye contamination, treat as above under First Aid Measures. Therapeutic measures: Basic aid, decontamination, symptomatic treatment.

## 5. FIRE FIGHTING MEASURES

<b>Extinguishing media</b>	Water spray, foam, dry chemical, carbon dioxide, sand
<b>Hazards from combustion products</b>	In a fire, formation of hydrogen cyanide, oxides of carbon, nitrogen and sulphur can be expected.
<b>Precautions for fire fighters</b>	The product is a Class C1 Combustible liquid. Firefighters should wear full protective gear, including self-contained breathing apparatus (AS/NZS 1715/1716). Keep unnecessary people away. Keep upwind. If it can be done safely, remove intact containers from the fire. Otherwise, use water spray to cool them. Bund area with sand or earth to prevent contamination of drains or waterways. Dispose of fire control water or other extinguishing agent and spillage safely later. Do not release contaminated water into the environment.
<b>Hazchem code</b>	2X

# MATERIAL SAFETY DATA SHEET



Date of Issue: October 2, 2007

## 6. ACCIDENTAL RELEASE MEASURES

Avoid contact with spilled material or contaminated surfaces. Extinguish or remove possible sources of ignition. When dealing with spills do not eat, drink or smoke and wear protective clothing and equipment as described in Section 8 - PERSONAL PROTECTION. Keep people and animals away. 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. Clean the floor with water and detergent, placing cleaning materials in the disposal drum. 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. Harmful if swallowed. Will damage the eyes and skin. Avoid contact with eyes and skin. Do not inhale vapour or spray mist. If product in eyes, wash it out immediately with water. If clothing becomes contaminated with product remove clothing immediately. If product on skin, immediately wash the area with soap and water. 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, goggles or face shield and contaminated clothing. Keep product away from ignition sources.

**Storage** Store in the closed, original container in a cool, dry, well-ventilated area. Do not store for prolonged periods in direct sunlight.

**Flammability** Combustible liquid Class C1 – flash point between 61 and 150° C

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Exposure standards** There are no NOHSC exposure standards for the ingredients in this product.

**Biological limit values** No biological limit allocated.

**Engineering controls** Control process conditions to avoid contact. When opening containers use exhaust ventilation to prevent vapours from spreading. Use in a well-ventilated area only.

**Personal protective equipment**

- Wear goggles, face shield or full-face respirator.
- Wear cotton overalls buttoned to the neck and wrist and a washable hat.
- Wear elbow-length PVC or nitrile gloves.
- Wear a full-face approved (AS/NZS 1715/1716) respirator suitable for organic vapour/mist if inhalation of the product is possible.

# MATERIAL SAFETY DATA SHEET



Date of Issue: October 2, 2007

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance:</b>	Clear brown liquid
<b>Odour:</b>	Aromatic
<b>pH:</b>	9.4 (1% solution)
<b>Vapour pressure:</b>	$1.7 \times 10^{-2}$ Pa (spiroxamine)
<b>Vapour density:</b>	Not available
<b>Boiling point:</b>	Not available
<b>Freezing/melting point:</b>	Not available
<b>Solubility:</b>	Emulsifies in water
<b>Specific gravity:</b>	1.00 at 20° C
<b>Flash point:</b>	108° C
<b>Flammability (explosive) limits:</b>	Not available
<b>Auto-ignition temperature:</b>	265° C
<b>Partition coefficient (octanol/water):</b>	<i>Spiroxamine</i> : Log $P_{ow}$ = 1.28 to 5.08 at pH 3-9 at 20° C

## 10. STABILITY AND REACTIVITY

<b>Chemical stability</b>	Stable under normal conditions of use.
<b>Conditions to avoid</b>	Heat, flames.
<b>Incompatible materials</b>	Strong oxidising agents, strong acids, plastics.
<b>Hazardous decomposition products</b>	None under normal conditions. In a fire, formation of hydrogen cyanide, oxides of carbon, nitrogen and sulphur can be expected.
<b>Hazardous reactions</b>	None

## 11. TOXICOLOGICAL INFORMATION

### POTENTIAL HEALTH EFFECTS

<b>Inhalation</b>	Harmful by inhalation and irritating to the respiratory tract.
<b>Skin contact</b>	Very irritating to skin. Harmful in contact with skin.
<b>Eye contact</b>	Will damage eyes.
<b>Ingestion</b>	Harmful if swallowed.

## 11. TOXICOLOGICAL INFORMATION - continued

### ANIMAL TOXICITY DATA – SIMILAR PRODUCT

#### Acute:

<b>Oral toxicity</b>	LD <sub>50</sub> rat: > 200 to 1000 mg/kg
<b>Dermal toxicity</b>	LD <sub>50</sub> rat: ≥ 2000 mg/kg
<b>Inhalation toxicity</b>	LC <sub>50</sub> rat: 2.3 mg/L, aerosol (4 h)
<b>Skin irritation</b>	Irritating (rabbit)
<b>Eye irritation</b>	Severely irritating (rabbit).
<b>Sensitisation</b>	Prosper was not a skin sensitiser in the guinea pig by the Beuhler method, although the active ingredient, spiroxamine, was a skin sensitiser in tests with guinea pigs.

#### Chronic:

Spiroxamine is not carcinogenic and not genotoxic, and showed no specific effects on reproduction in animal studies. Benzyl alcohol is not considered to be carcinogenic.

## 12. ECOLOGICAL INFORMATION

Very toxic to aquatic organisms and may cause long-term adverse effects in the aquatic environment. Spiroxamine is practically non-toxic to bees and earthworms. It has a low hazard for birds. DO NOT contaminate streams, rivers or waterways with the product or used containers.

#### **Ecotoxicity**

##### Prosper:

##### *Fish toxicity:*

LC<sub>50</sub>: 11.5 mg/L (96 h); trout (*Oncorhynchus mykiss*)

##### *Aquatic invertebrate toxicity:*

EC<sub>50</sub>: 10.3 mg/L (48 h); water flea (*Daphnia magna*)

##### *Algae toxicity:*

Growth rate EC<sub>50</sub>: 0.029 mg/L (72 h); green algae (*Desmodesmus subspicatus*)

##### Spiroxamine:

##### *Toxicity to bacteria:*

EC<sub>50</sub>: 100-1000 mg/L; activated sludge micro-organism

##### *Bird toxicity:*

Acute oral LD<sub>50</sub>: 565 mg/kg; bobwhite quail

#### **Environmental fate, persistence and degradability, mobility**

Spiroxamine: Readily degraded in soil. DT<sub>50</sub> (lab and field) is 35 to 64 days.

Relatively stable to hydrolysis at pH 9.

In water / sediment studies spiroxamine bound rapidly to the sediment. Thoroughly degraded in the water / sediment systems.

It is unlikely to leach or to contaminate groundwater, and it is unlikely to bioaccumulate in natural systems.

# MATERIAL SAFETY DATA SHEET



Date of Issue: October 2, 2007

## 13. DISPOSAL CONSIDERATIONS

Triple or preferably pressure rinse container 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 container 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. Dispose of waste product through a reputable waste contractor.

## 14. TRANSPORT INFORMATION

<b>UN number</b>	2902
<b>Proper shipping name</b>	PESTICIDE, LIQUID, TOXIC, N.O.S. (contains spiroxamine)
<b>Class and subsidiary risk</b>	6.1 No subsidiary risk
<b>Packing group</b>	III
<b>EPG</b>	Guide 34 – Dangerous Goods – Initial Emergency Response Guide
<b>Hazchem code</b>	2X
<b>Marine pollutant</b>	Yes.

## 15. REGULATORY INFORMATION

Registered according to the Agricultural and Veterinary Chemicals Act 1988.  
Australian Pesticides and Veterinary Medicines Authority approval number: 52817  
See also Section 2.

## 16. OTHER INFORMATION

**Trademark information** Prosper® is a Registered Trademark of Bayer.

**Preparation information** Replaces November 14, 2003 MSDS.  
Reasons for revision: Marine pollutant, flash point, oral toxicity, regulatory information and minor heading changes.

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