

The Material Safety Data Sheet (MSDS)

The first place to look for information about a pesticide is on the product label. The second place to look is the Material Safety Data Sheet (MSDS). The MSDS gives additional information about health hazards, personal safety and environmental protection that may not be on the label.

Read the MSDS before you handle a pesticide so that you are familiar with the hazards of the product. Under the new **Pest Control Product Act**, a MSDS will be required for all Commercial, Restricted and Manufacturing Class products once regulations are put into effect. MSDS's are already available for most pesticides in Canada. You can get MSDS copies from:

- ▶ your pesticide dealer, or
- ▶ the pesticide registrant, whose contact information is given on the label.

Look for the date the MSDS was prepared and who prepared it. This information may be included as part of the first section or may be at the end of the MSDS. Contact your supplier or the registrant of the pesticide to make sure you have the latest version of the MSDS. Most companies have their current MSDS's on their web sites, or they will fax or mail them to you free of charge.

On the next few pages, you will find a sample Material Safety Data Sheet. It shows the section headings you will often see and a short description of what each section will tell you. Although the format of a MSDS varies from company to company, take the time to review this sample so that you are familiar with the information you can find on a Material Safety Data Sheet.

**MATERIAL SAFETY
DATA SHEET****Pest Management Company, Ridgetown, ON N0P 2C0
Emergency Number - 24 hours: 519-674-SSSS****1 Chemical Product and Company Identification**

Product Identifier:	PEST MANAGER 500 EC
Registration Number:	54321
Chemical Class:	aromatic hydrocarbon solvent 40%
Product Use:	herbicide to control broadleaf weeds and grasses
Preparation Date:	2006/05/21
Supersedes:	2003/08/11
Manufacturer/Distributor:	see above

2 Composition/Information on Ingredients

Active Ingredient:	monolochlor, 500 g/L emulsifiable concentrate
CAS No:	10101-22-3
Chemical Identity:	3-(1-methylethyl)-2H-2,1-monolochlor

3 Hazards Identification**Warning Statements:**

PRECAUTION! Keep out of reach of children. MAY CAUSE EYE AND SKIN IRRITATION. HARMFUL IF SWALLOWED. This product is slightly toxic to fish and aquatic invertebrates.

Potential Health Effects:

Likely routes of exposure: eyes, skin, lungs, mouth

Eye contact: may cause eye irritation

Skin contact: may cause skin irritation. Prolonged contact may cause increased skin irritation.

Inhalation: may cause irritation to the nose, throat and lungs.

Ingestion: ingestion may produce irritation of the mouth, nausea, vomiting and diarrhea.

Refer to section 11 for toxicological information.

4 First Aid Measures

Skin Contact:	Immediately remove contaminated clothing and wash affected skin with soap and water.
Eye Contact:	Flush eyes with plenty of water for 15 minutes and seek medical advice immediately.
Inhalation:	Remove victim to fresh air and if breathing has stopped, give artificial respiration. Seek medical attention.
Ingestion:	If swallowed, do not induce vomiting but rush victim to nearest hospital taking the container or this sheet with you. Use gastric lavages and saline cathartics.
Storage Precautions:	Do not handle or store near flame, heat or strong oxidants. Do not store near food or animal feed. Avoid freezing temperatures.

1 Chemical Product and Company Identification

This section tells you the trade name, registration number and primary use of the product. It also gives the name, address and emergency telephone number of the registrant.

2 Composition/Information on Ingredients

This section identifies the active ingredient, any hazardous ingredients in the product and their chemical registration numbers.

3 Hazards Identification

This section lists the emergency overview and potential health effects of the product.

4 First Aid Measures

This section explains what to do if someone is exposed to the product. Follow these instructions in an emergency, but always call for medical help.

**MATERIAL SAFETY
DATA SHEET****Pest Management Company, Ridgetown, ON N0P 2C0
Emergency Number - 24 hours: 519-674-SSSS****5 Fire Fighting Measures**

Flash Point and method:	70°C Setaflash closed cup
Extinguishing Media:	Dry chemical, foam or carbon dioxide. Water or foam may cause frothing when applied to flammable liquids with flash points above 100°C. Fire-fighters should wear full protective clothing and self-contained breathing apparatus.

6 Accidental Release Measures**Procedures for dealing with release or spills:**

Before handling any spills, wear protective equipment - see section 8. For small spills, absorb with sand or other non-combustible material like clay or kitty litter. For large spills, dike up and contain the spill. Collect into a suitable container. Absorb the rest with sand, earth or clay. Decontaminate the area and equipment with laundry bleach or hydrated lime.

7 Handling and Storage**Handling Practices:**

Keep Out of Reach of Children. Avoid contact with eyes, skin or clothing, and wash immediately after exposure. Avoid contact with eyes, skin or clothing, and wash immediately after exposure. Avoid inhalation of spray. Always wash thoroughly after handling. Remove contaminated clothing promptly, and wash it before wearing again.

Appropriate storage practices:

Store in a well-ventilated, secure area set aside for pesticides. Do not store food, beverages, or tobacco in the same area. Protect from heat.

8 Exposure Control/Personal Protection

Personal Protective Measures:	Wear respirator; neoprene gloves; goggles or face shield
Preventative Measures:	Do not smoke, eat or drink while working with this product and wash thoroughly before doing so.
Technical Protective Measures:	Avoid breathing vapours, ventilate enclosed spaces and wear cartridge type respirator.
Special Precautions for Transport:	Keep containers tightly closed when not in use.

9 Physical and Chemical Properties

Appearance:	clear, viscous, yellow
pH:	8 - 8.5
Odour:	aromatic odour
Form:	liquid
Water Solubility:	miscible EC formulation
Boiling Point:	86°C
Specific Gravity:	1.002

5 Fire Fighting Measures

This section gives information that is important when fighting a fire. This includes flammability, means of extinction and nature of any hazardous combustion products.

6 Accidental Release Measures

This section gives procedures to deal with leaks and spills.

7 Handling and Storage

This section gives safe handling and storage procedures.

8 Exposure Control/Personal Protection

This section explains what personal protection you must use - such as eye, skin and respiratory protection.

9 Physical and Chemical Properties

This section tells you about the appearance, odour, specific gravity, boiling point, flash point and auto-ignition temperature of the pesticide.

**MATERIAL SAFETY
DATA SHEET****Pest Management Company, Ridgetown, ON N0P 2C0
Emergency Number - 24 hours: 519-674-SSSS****10 Stability and Reactivity**

Chemical Stability:	stable
Hazardous Polymerization:	will not occur
Incompatibility:	Avoid contact with strong acids, alkalis, and strong oxidants; nitric acid, acetaldehyde, hydrogen peroxide, chlorinated compounds.
Hazardous Decomposition Products:	Thermal decomposition may produce toxic smoke, CO and CO ₂ .

11 Toxicological Information

Acute Oral LD₅₀:	756 mg formulated product/kg body weight (rats)
Acute Dermal LD₅₀:	1480 mg formulated product/kg body weight (rats)
Inhalation LC₅₀:	>3.63 mg/L air (4 hour) (rats)
Dermal Irritation:	mild irritant (rabbits)
Dermal Sensitization:	Dermal sensitization, Guinea pig - not a sensitizer
Carcinogenicity:	Monochlor was found not to be carcinogenic in studies with rats and mice.
Reproductive toxicity:	Monochlor is not developmentally toxic, and does not affect reproductive performance.
Teratogenicity:	Monochlor was not teratogenic in a study with rats.

12 Ecological Information

Aquatic Invertebrates:	48-hr EC ₅₀ Daphnia magna: 24-37 mg/L; slightly toxic
Warmwater Fish:	96-hr LC ₅₀ Bluegill sunfish: 5.8-14 mg/L; slightly to moderately toxic
Terrestrial Invertebrates:	48-hr LD ₅₀ Honeybee: >0.1 mg/bee; Practically Nontoxic

The results of degradation and bioconcentration studies with this material indicate that the active ingredient is rapidly adsorbed to soil, readily biodegrades in soil and water, and does not bioaccumulate.

13 Disposal Considerations**Waste Disposal:**

Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, Provincial, and local regulations. Do not flush to surface water or sanitary sewer system. Triple rinse the container. Offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill in accordance with the provincial and local regulations. Do not re-use empty containers.

14 Transport Information**TDG Classification - Road/Rail:** not regulated

10 Stability and Reactivity

This section tells you about the chemical stability and reactivity of the product, incompatible substances and hazardous decomposition products.

11 Toxicological Information

This section tells you how your health may be affected by exposure to the product. It gives results of the company's research on the product. You will find LD₅₀ and LC₅₀ information here.

12 Ecological Information

This section may give information about toxicity of the product to aquatic plants, aquatic invertebrates, fish, birds and bees. This section may also tell you how the pesticide degrades or is metabolized.

13 Disposal Considerations

This section tells you how to dispose of empty containers and unused or unwanted product.

14 Transport Information

This section tells you whether the product is regulated under the **Transportation of Dangerous Goods Act**, and may tell you other shipping information.

15 Regulatory Information

Regulated under the **Pest Control Products Act**. WHMIS classification: Exempt
This MSDS has been prepared in accordance with WHMIS requirements and the data are presented under 16 headings.

16 Other Information

The above information is intended to describe our product in respect to safety and handling requirements only. We have attempted to be complete and correct however liability for any damage or injury is hereby declined since conditions of use and utilization of the product are beyond our control. Observance of all legal requirements is the responsibility of the user.

15 Regulatory Information

This section tells you all safety, health and environmental regulations specific to the product.

16 Other Information

This section may include the date of creation, signature and attestation of accuracy.

The MSDS may use technical words that you don't understand. You can find many of these words in the glossary at the back of this book. If there is a word you can't find, try the MSDS glossary offered on-line by the Canadian Centre for Occupational Health and Safety (CCOHS). You can find the CCOHS web site located at **www.ccohs.ca**

Review Questions



1. When would you refer to a Material Safety Data Sheet?

2. Where can you obtain a Material Safety Data Sheet?
 - a) Ontario Ministry of the Environment
 - b) Pesticide Dealer or Registrant
 - c) Ontario Ministry of Agriculture, Food and Rural Affairs
 - d) Public Library